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THE AMERICAN ALPINE JOURNAL

VOLUME I 1929 NUMBER 1

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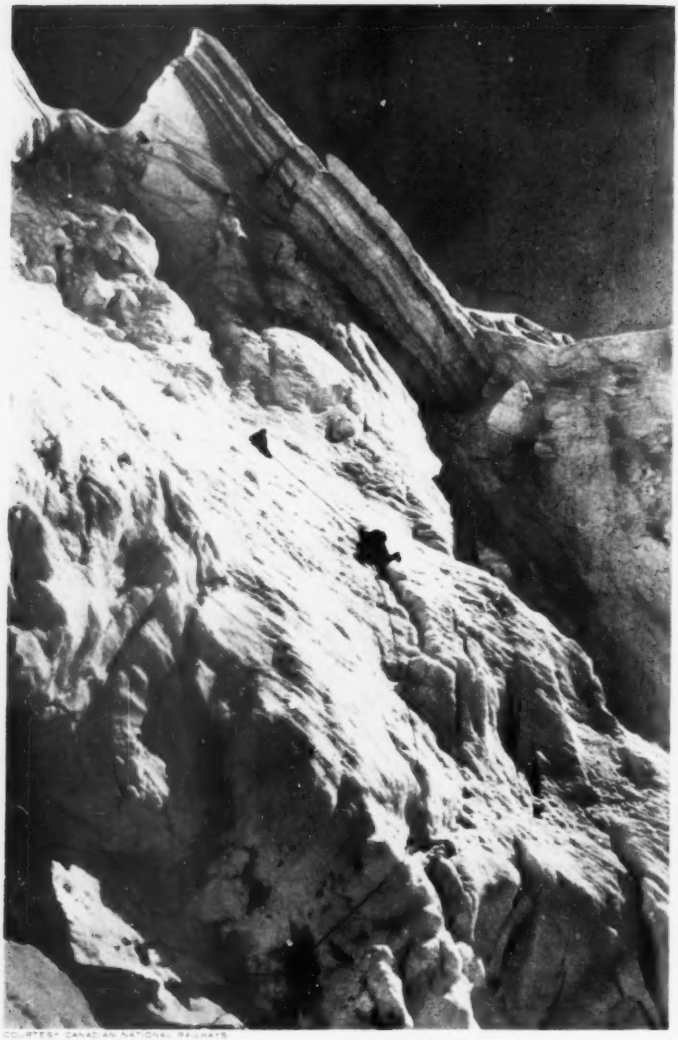

COURTESY CANADIAN NATIONAL RAILWAYS

The Ice Wall on Mt. Robson

(See Page 10)

THE

AMERICAN ALPINE JOURNAL

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Travel and Ascents South of Banff

J. W. A. HICKSON

OTHER companions having failed, Edward Feuz, Jr., and the writer set out from Banff on August 8 last to revisit the scenes of a trip made nine years earlier and to push farther south than we did then. We were capably supported by "Scottie" Wright, an experienced and obliging man, who had been game warden for some years at the Spray Lakes. He looked after the pack train consisting of twelve horses, including five horses for the riders, who, in addition to the three already mentioned, included a cook by name of Curley and a youth, Ray York.

On the third afternoon the party camped immediately north of Palliser Pass, at about 6,125 ft., on the very spot where Feuz, the writer and a friend had spent several days in 1919, and whence the first ascent of Mt. Sir Douglas Haig, which dominates the Pass, had been made. A steep ascent of some 700 ft. leads to the summit of the Pass, 6,836 ft., and thereafter follows a very sharp descent, which, being without windings or zigzags, is trying for pack horses and a little dangerous for riders. Several of the animals fell down and got tangled up in the fallen trees, which, however, were not so barrier-like as on our earlier passage. From the summit of the Pass to the Flats of the Palliser River, the drop is nearly 2,000 ft. The Flats present rather tame scenery, except for a glimpse of the Royal Group, and are very tedious to travel over.

On the fourth afternoon we made camp, partly by good luck and partly through sound judgment on the part of Feuz, about a mile above the junction of Joffre Creek with the Palliser River, and, as we discovered after settling down, within 100 yards of the trail leading up the lateral valley. The traveling on the following day was for the most part very steep and rough, and in places very

arduous. Alongside the turbulent creek, the trail was extremely narrow and insecure. The writer's horse slipped, fell over the bank, and nearly landed him in the stream. Although higher up there were signs to indicate that a party had been over the trail at least part of the way to Sylvan Pass as late as 1926, yet it was obvious that it is very seldom traveled. At about half-way to the Pass it emerges on a grassy slide, and our perplexities were increased by losing it on re-entering the wood on the farther side.[1] The reason for this, namely, that the trees were blazed on their upper sides only, was not discovered until our return journey to the Palliser. Our camping ground was at approximately 7,400 ft., 2,500 ft. above the River and about 250 ft. below the summit of the Pass. It was a lovely spot, covered with thick grass and dotted with clusters of fine larches, but not an ideal camping place owing to scarcity of water and unevenness of the ground. Our tents were pitched immediately west of the great wall of Mt. Joffre, which rose some 3,800 ft. above us; from them we could see Mt. Assiniboine and had a fine view of the Royal Group, while the outlook from the Pass was superb. Mt. Nivelle, however, which was one of our objectives, remained for the time being invisible.

After a sudden change of weather, which precipitated a fall of snow around the camp and brought a day of enforced inactivity, the sky cleared a little and Feuz and the writer set out on the 14th to explore the neighbourhood and prospect a route to Mt. Nivelle. Four hours' steady going over side hills under the massif of Joffre brought us to a wide couloir up which we scrambled to a col south-east of, and some 1,800 ft. higher than, our camp. Here we saw Mt. Nivelle very clearly and at no great distance by air line, separated by a small glacier from the wall on which we stood; but the smooth and precipitous rocks of at least 1,000 ft. barred any approach to the ice. It was obvious that in order to reach the peak we should have to move over Sylvan Pass and approach it from the south. Before doing this, we decided to attempt the unclimbed Mt. Mangin, 10,030 ft., immediately northwest of Joffre and within convenient distance of our camp.

Accordingly, next morning, we set out at the rather late hour of 8.20, owing to the uncertainty of the weather. The lower part

[1] It was found again much farther on, after we had passed through a most difficult tangle of fallen timber.

Mt. Petain Mt. Joffre Mt. Mangin

Photo. Interprovincial Boundary Survey

MT. JOFFRE GROUP FROM THE NORTH

Photo. Interprovincial Boundary Survey

MT. NIVELLE FROM THE NORTH

Photo, Interprovincial Boundary Survey

MT. ROBERTSON (LEFT) AND MT. SIR DOUGLAS
From the Northwest

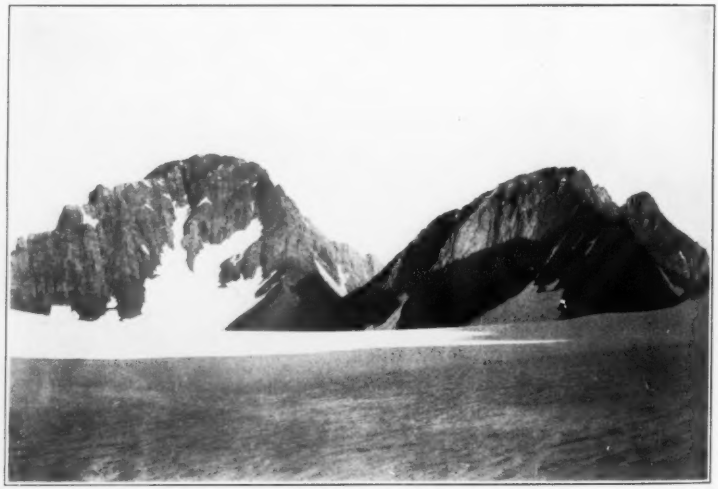


Photo H. S. Hall, Jr.

MT. SIR DOUGLAS AND MT. ROBERTSON (RIGHT)
From the Haig Glacier

of the route, a huge couloir on the west side of the peak, was visible from camp and presented no difficulties; but after reaching the rocks the climbing was unpleasant, owing to a north wind and the covering of fresh snow which rendered one's fingers distressingly cold. The rope was put on at 9,500 ft., although it was not needed except for a short and stiff bit consisting of an exposed chimney about 200 ft. under the summit, running directly above a narrow ledge below which the rock was undercut. It seemed to be the only means of ascent through the last rock-wall. Above this it was very easy going to the surprisingly spacious summit, reached at 12.45, on which an hour and a half were spent in delightful sunshine, and whence the far-reaching views in all directions, disclosing for us new peaks, lakes and glaciers, provided a mild excitement. Leaving the summit shortly after 2 P.M., we reached camp again at 5.15.

A longer and more arduous climb than the foregoing was provided by Mt. Nivelle, 10,620 ft., accomplished two days later, after we had transferred ourselves and baggage over Sylvan Pass down the White River and up the gulch of Nivelle Creek. The four miles of trail and trailless ground traversed required as many hours. Our objective was not visible from the camp, 5,800 ft., but we knew well its position and could infer the route of approach.

Although we had planned to make an early start, yet owing to preventible delays we did not set out until 6 A.M.; and not until after three hours of steady ascent over tedious and disagreeable ground did we come into contact with the base of our peak. Another hour and a half were consumed before we were seated on a scree-covered shoulder of it at approximately 9,400 ft. Shortly after this we used the rope, as the slope became precipitous and its narrow ledges were covered with gravel which fell very readily away from it.

Stimulated by a cool wind, we bore to the left and proceeded up a steep couloir on the southwest side, thereby circumventing several prominent rock towers which jutted out from the ridge. At the top of the couloir we came out just under the second highest point of the mountain. Turning this on the left by a traverse under the summit ridge, we faced a short and steep chimney which brought us to the narrow summit at 12.55 P.M. Here again we had splendid views of the peaks seen from Mt. Mangin, and in addition could now more clearly define some of those prominent to the south. The atmosphere was of unsurpassable clearness; an unusual absence

of smoke had characterized this season in the Southern Canadian Rockies.

After some refreshment and the building of the usual cairn, we left the summit at 2 P.M., varying the route of ascent after the first few hundred feet, in order to make use of a couple of couloirs filled with small stone and gravel, which facilitated the descent. Thereafter, down to 8,800 ft. we were helped by patches of snow which at this time of day were in good condition for short glissades. Then followed a wearisome grind over dreadful ridges of sharp stones and large boulders, ruinous on boots and very tiresome to the feet. A longish rest and some further refreshment were enjoyed on a grassy flat about 1,400 ft. above the camp, and the latter was reached again shortly before 7 P.M.

The following day was one of inactivity for the climbers. After some showers during the night, Sunday, the 19th, opened with a brilliant sky. The writer was still lazy; but Feuz and Wright started out at 9.30 to obtain a look over a pass to the southeast directly under a castellated peak which towered above the camp, probably not quite 10,000 ft., and a very striking object from Sylvan Pass. Heavy showers fell in the afternoon, and the men returned thoroughly soaked, having advanced beyond the summit of the Pass to a point on the east side of the peak, which Feuz calculated to have been almost 9,000 ft.

The weather having now begun to look distinctly unfavourable, we considered it wiser to return to the Palliser River than stay here any longer, lest we should be frustrated in our desire to climb Mt. Robertson in the British Military Group, which had been unsuccessfully attempted six years before. Accordingly, on the morning of the 20th, after a night of rain, we made an early start under a leaden sky, which brightened during the forenoon. Our progress to Sylvan Pass was rapid. The former camping ground was reached in two hours, and the Palliser River in less than six. The next day was bright and warm, one of the finest of the whole trip. The afternoon of the 21st saw us camped near Turbine Canyon, after having crossed the colorful North Kananaskis Pass, 7,680 ft. The evening was delightful, but before we retired ominous flashes of lightning lit up the heavy clouds on the eastern sky.

During the night a change of wind brought about a complete reversal of weather conditions; it snowed down to 8,000 ft., and,

with the clouds equally low, anything important was excluded for the day. On the 23rd the writer peeped out at 6 o'clock and called to Feuz, who had been up an hour earlier, when the sky looked quite hopeless. At 7.45 we got away, bound for the Haig Glacier, the tongue of which stretched down to about 350 ft. above our camp, 7,250 ft.

It was pleasant and safe going across the ice, which was in capital condition, and at 9 A.M. we were 1,200 ft. above our starting point. Higher up, the glacier was covered with fresh snow, and as the ground was unknown, we tied up. The walking was excellent, no crevasses worth mentioning being encountered. The end of the snowfield under Mt. Robertson was reached at 11.15, and half an hour later the col between this peak and Sir Douglas, the ascent of some 300 ft. of scree, which moved down almost as rapidly as one moved up it, being decidedly irksome. At this point we were at an elevation of approximately 9,400 ft., and considering that Mt. Robertson was only 1,000 ft. higher and that the weather, although uncertain, did not appear too threatening, we decided to take a shot at the peak. It was fairly obvious that we should have to follow the ridge and that there would be some difficult places.

The first part of the ridge, which runs up from the southwest, consists of detached towers and huge knobs of rock, seamed by small chimneys with scree lying between. In forty minutes we had accomplished more than half the distance in height, and had left our ice-axes behind. The more critical part of the climbing now began, and Feuz looked ahead with obvious satisfaction. At about 10,000 ft. the ridge runs more directly north and south, becomes more jagged and so narrow as to be almost knifelike. In quite a few places the amateur straddled it and occasionally the guide did not spurn to do the same. Again and again the full length of the 80 ft. rope separated the climbers, who had to maneuvre for relatively comfortable, though by no means safe, positions. At 1 o'clock the small cairn placed on the ridge by the A. C. C. party of 1922, among whom was the lamented M. D. Geddes, was passed. The party of five had reached this point, not more than 150 ft. in height below the summit, at 3.40 P.M., and considering its number, and what lay ahead, had wisely turned back. We advanced some 50 ft. higher on the ridge, much indented and blocked by gendarmes of all sorts of shape, and of very brittle composition. One has to

climb over these, there being no way of turning them. A belaying of the rope is practically impossible. Feuz was facing one of these protuberances, and the writer was straddling the ridge, when we decided to stop. Neither of us enjoyed such an exposed situation on such rotten rock. We took a look over the right side of the ridge in the hope of seeing some possibility of an escape, and almost at once Feuz exclaimed that he thought there was a safer way up, if only we could descend about 100 ft. to a ledge. We retraced our steps beyond the A. C. C. cairn and then came down over some steep slabs of rock, thereby gaining the espied ledge. It proved to be what we hoped. It entailed a longish traverse on a sufficiently wide rim running around the summit cliffs. On this we paid out the rope four times to the full length, and finally by the ascent of some 20 ft. of precipitous and rather rotten rock landed on the very pointed summit a few minutes before 2 o'clock. Only twenty minutes were spent here, for hail and snow, which began to fall, warned us not to loiter, and moreover there was no protection from a cool wind.

The retraverse of the ledge was accomplished safely, and the ridge regained, on which more "horsing" was indulged in. Halfway down we varied the route by using an easy couloir of scree and gravel on the right and then traversing from its foot over loose rocks back to the ridge at a point a little above where the ice-axes had been left. From here the descent was quite simple. The col was reached at 4.30, and after a short rest, with some food, we got down in less than five minutes to the snow. There was nothing to delay us on the glacier, and at 7.15 P.M. we were again in camp.

The weather, which had seemed for several days to be brewing a big storm, now looked so threatening that we decided to move down next day to Kananaskis Lakes and enjoy a rest and some fishing at this lower altitude, where, if it did snow, the result would be less unpleasant. At a matter of fact the weather did break badly on the evening of the 24th, and for the best part of two days it rained and snowed down to 5,600 ft., so that scarcely anything could be seen of the mountains in the neighborhood of the Lakes. On the way there the writer suffered a sprained ankle and other injuries through his horse falling down on the trail, which put any further climbing for the season out of the question.

Sierra Club Ascents in the Canadian Rockies

NORMAN CLYDE

FOR its summer outing of 1928 the Sierra Club of California decided upon a trip to the Canadian Rockies. Two base camps of about ten days each were contemplated: one in the Tonquin Valley, the other in the vicinity of Mt. Robson.

On the day of our arrival at Jasper the first climbing party set out for Mt. Edith Cavell. After leaving the road about a mile below its terminus at the Glacier of the Angel, we contoured around the mountain for a few miles, eventually camping for the night near timberline on its western flank. The ascent on the following morning did not prove a difficult one, although, through lack of acquaintance with the country, we did not follow the most direct route. It was essentially a rather easy rock-climb with some snow and ice near the summit, which consists of a narrow arête somewhat over a half-mile long, on this occasion deeply covered with snow and heavily corniced with it to the north. Owing to its height—11,033 ft. above sea-level—and its somewhat isolated position, the summit commands a magnificent view, especially to the south and southeast. On the day of our ascent, heavy clouds hung low over the snow-clad mountains, which displayed an impressive chiaroscuro effect of sunlight and shadow. The descent was down the south face. The route followed in the ascent is a good one, provided that one has other climbs in prospect on the upper Astoria River. Otherwise it is better to utilize an eastern arête which is more accessible and affords a more interesting climb.

On the ensuing day we ascended the Astoria River for a few miles, forded it and then followed an old trail westward to the Tonquin Valley and onward to Moat Lake at the upper end of the latter, where the remainder of the club was encamped. We were greatly impressed by the Ramparts springing up sheer for thousands of feet above the verdant expanse of the Tonquin Valley in a magnificent array of battlemented peaks. We could compare them with no other mountains with which we were familiar except the Tetons of Wyoming. Both rise abruptly from a broad valley to great elevations in spire-like peaks that for sublime ruggedness have few parallels in America.

Of the more difficult peaks of the Ramparts we climbed only Mts. Bastion (9,814 ft.) and Geikie (10,854 ft.). Both being unscalable from the valley in which we were encamped, it was necessary to cross a pass about midway along the series for the first and to flank it by going around Mt. Barbican for the second. Mt. Bastion proved to be an excellent rock climb, not extraordinarily difficult, but sufficiently so to render it attractive to an expert alpinist. The panorama which its summit commands is very magnificent. On one side is the wide expanse of the Tonquin Valley; on the other, the deep gorge of a tributary of the Fraser River, some miles of its upper reaches being occupied by the Bennington Glacier. This is flanked on one side by the jagged Ramparts, on the other by a line of dark peaks terminating in Postern Peak, a tapering pyramid directly south across the valley. In every direction broken, snow-clad peaks extend to a distant horizon.

The ascent of Mt. Geikie, the highest of the Ramparts, was considerably the more difficult of the two. The starting point was Geikie Meadow, several miles southwest of the base of the mountain. Under the leadership of Hans Fuhrer, an expert Swiss guide who had already made two ascents of the peak, we set forth shortly after dawn, going eastward until we came abreast of the Inkwell—a small, circular lake of a peculiar deep blue. Turning northward, we trudged over loose material until we arrived at the base of a steep snow-filled couloir. The route of the first ascent of Mt. Geikie was up this long, steep chute to a notch, and thence along the crest of the summit—an arduous and rather perilous climb. Hans, however, had discovered another way entailing a great variety of rock-work and involving a certain amount of hazard from falling rock, but on the whole much easier.

After ascending the frozen snow of the couloir for perhaps 500 ft., we scrambled up the rocks to the left. There we roped up in two parties of five and four each. Having surmounted several hundred feet of ledges, we came to a chimney, the lower portion of which was obstructed by heaps of loose rock; the upper, for a distance of perhaps 50 ft., approached the vertical and contained none too many holds. This behind us, we walked along a shelving ledge for several rods to a pitch demanding a rather long reach, up which we hoisted ourselves. Before long we came to a strip of rock sloping up steeply and possessing nothing in the way of holds except a few rounded protuberances—a type of surface best negotiated with

Photo. Ansel E. Adams

BASTION PEAK AND MT. CASEMATE
From the North

Photo, Ansel E. Adams

THE NORTHERN RAMPARTS

rubber or rope soles. Having neither, we rather gingerly picked our way up it with our nailed ones. We then swung westward along a horizontal shelf running in spectacular fashion above sheer cliffs and narrowing on several occasions to slightly embarrassing traverses. This passed, we proceeded up a succession of couloirs, gradually working to the left until we rounded another shoulder and went along another level shelf perhaps a hundred yards in length. The summit was then within view and apparently only about 1000 ft. above us.

In the morning the sky had been perfectly clear, but now clouds were rapidly gathering in it. With the peak almost within our grasp, we quickened our pace. Up snow slopes, along rocky protuberances, over several vertical pitches we hurried until the summit arête was reached. A few minutes later we stood on the highest point, a mound of snow corniced to the north. By this time rolling masses of clouds were sweeping over the Ramparts, and we were enveloped in driving snow. Far below us lay the green basin of the Tonquin Valley, dimly descried through the vapor. Through rifts peered the craggy summits of Mts. Turret and Bastion, while scores of snow-clad peaks loomed obscurely in the distance. Within a few minutes we had begun the descent. Although we went along steadily and with fair speed, darkness overtook us in the last couloir. Eventually reaching the base of the mountain, several continued on to camp, while the others sat about a fire until dawn—at this latitude and season about 2 A. M.—before completing the descent. By the route followed, Mt. Geikie is almost entirely a rock-climb, and although it does not present any extraordinarily dangerous passages it does possess an unusual amount of rather difficult climbing.

Several days later the Sierra Club party alighted from the train at Emperor, a few miles from the base of Mt. Robson, the next goal of our endeavor. From a study, through binoculars, of the second ice-fall, the chief obstacle to be overcome in an ascent by the south face, it seemed possible to flank it by going along a shelf to the left. There was some likelihood also that there might be a negotiable crevice somewhere along its face. Hoping that one or the other of these alternatives would prove true, a group of about fifteen climbers was organized with Hans and Heinie Fuhrer as guides.

On the afternoon of the next day we reached the first ice-fall, an elevation of about 8,000 ft., and made camp on a shaly limestone ridge immediately below it. The weather being delightful, the

greater part of the evening was spent in scrambling about the ice-fall or in leisurely surveying the magnificent sweep of profound green valleys and lofty snow-capped mountains commanded by our camp-site. Shortly after dawn, on the ensuing morning, we were picking our way up a ridge of loose limestone followed by a snow slope and a narrow snow-covered arête. About seven o'clock we arrived at the second ice-fall. Somewhat to our dismay we saw that the ledge along which we had hoped to pass the fall was completely covered by an overhanging wall of ice, and to our disappointment also there appeared no feasible crevice along the vertical ice-front. After a futile attempt to surmount it at one place, Hans cut his way around a bulging mass of ice and discovered a narrow ice-shelf beyond it. Less than 2 ft. in width and dropping away sheer for 100 ft., he cautiously made his way along it, cutting steps, until he succeeded in scaling a less steep portion of the wall. After some time, his brother joined him, and together they hewed their way to a crevice in the ice where they made an "anchor" of an ice-ax. As several hours had elapsed, the sun was now shining warmly on the ice, and there was some danger from falling séracs. Three of us followed on the rope.[1] Although there remained about 100 ft. of the ice-cliff to be surmounted, no especial difficulty was encountered until a cornice projecting from its upper margin was reached. Hans, however, found a way over it, and the others followed. From there we pursued a zigzag course up the face of the mountain, now veering to avoid a yawning crevasse and again to go around a menacing ice-cliff. Cutting our way up a steep ice-slope, trudging steadily up ever-steepening snow, we came to the base of a snow chimney filled with loose snow up which we made our way as best we might. Finally we emerged on a narrow crest with great cornices projecting to the north, and after following it for a few hundred yards, reached the summit, a snow mound near its western terminus.

There was scarcely a cloud in the deep-blue sky. The panorama of rugged snow-clad mountains was the most magnificent we had yet seen, but we could linger for only a few minutes unless we chose to shiver all night above the ice-fall, since it would be impossible to descend it by night. It was already nearly 4 o'clock. We were therefore soon threading our way down the face of the mountain. It was dusk when we arrived at the ice-fall. Dropping down over the

[1] Norman Clyde, Marion Montgomery, Don Woods.—[Ed.]

Photo, Ansel E. Adams

THE EAST FACE OF MT. ROBSON

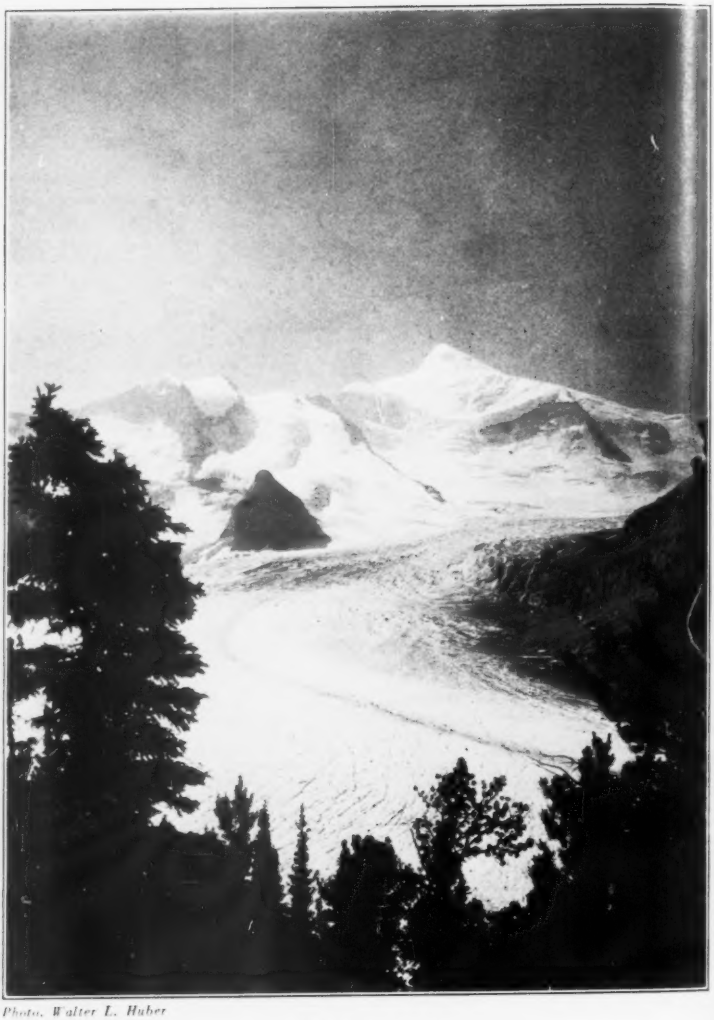


Photo. Walter L. Huber

MT. RESPLENDENT

cornice, we descended to the anchoring place and waited for Hans. When the anchor was ready, Heinie went down first, and three of us followed him. After doubling the rope over a projection, Hans came last. He descended steadily and safely until he reached the worst part of the shelf. There his rope gave out, and it was already too dark for him to see his way clearly. He pulled down the rope, but was almost swept from the shelf by the force of the impact. Eventually he attached to it a small rope which we had gotten to him, enabling us to draw the larger one around the projection and, a little later, Hans himself. A few hours later we arrived at camp.

On the following day we leisurely made our way down the base of the mountain and, on the next, joined the main camp situated on the margin of Lake Adolphus, a few miles northeast of Mt. Robson. For a week we had ideal weather in which to climb the nearby mountains. Those who wished a very easy ascent and a good view, climbed Titkana Peak; those who desired something more arduous and still finer views, ascended Mt. Mumm or Mt. Lynx, while those who were eager for a snow climb walked up the Robson Glacier for a few miles and onward to the summit of Mt. Resplendent—one of the most beautiful snow mountains in the Canadian Rockies.

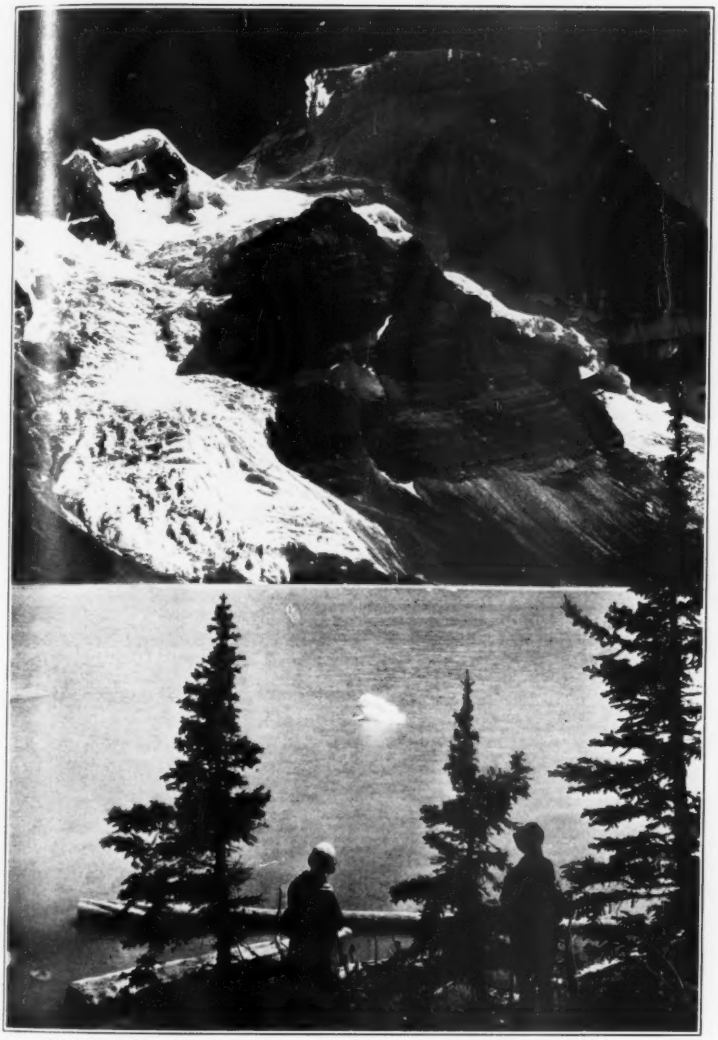
Near the end of our sojourn the weather changed. However, we would not be satisfied without at least an attempt on Mt. Whitehorn (11,101 ft.), a few miles to the west, and, next to Mt. Robson, the most difficult mountain in the vicinity. The clouds appearing about to break away one afternoon, we shouldered our packs and followed the trail to within a few miles of its base. Early the next morning we were on our way, although the weather prospects were anything but favorable, the summits of both Mt. Robson and Mt. Whitehorn being wrapped in thick cloud. Arriving at the foot of the mountain, we began to zigzag up the glacier, gradually veering to the right until the northwest shoulder of the mountain was gained. We then dropped several hundred feet, rounded another shoulder and commenced to make our way up another glacier on its western face. After crossing the bergschrund, we scaled a 30-ft. wall, cut our way up a steep ice-slope and then followed a ridge several hundred yards to the left, to be confronted by an almost vertical wall perhaps 150 ft. high. Hans, however, succeeded in clambering up the narrow shelves of its disintegrating limestone. The remainder of the party ascended behind him, the lower ones regaled with a shower of rock fragments, one of which found

Heinie's nose, very much to his discomfort. All reached the top safely, although it was the most precarious bit of rock-work encountered on the trip. A few minutes later we plunged into cloud; several more, and we stood on the summit by the cairn, unable to see more than a few yards through the thick vapor and falling snow which enveloped us.

A quarter of an hour later we were on our way down the mountain. To avoid the shaly cliff we went directly south and swung around a shelf under a rather embarrassing overhang to the ridge up which we had come. We continued in the same direction, hoping to be able to reach the base of the mountain and go down a valley to Kinney Lake. We were, however, confronted by one obstacle after another. After being thwarted by a sheer drop, we ran along a shelf beneath an ice-fall, only to be stopped by the stream issuing from the snout of the glacier. Our next move was to cross the glacier above the ice-fall, continue southward over a ridge and down a chute. The latter, however, suddenly terminated in a steep wall. Veering to the left along a narrow shelf, we dropped down a very steeply sloping pitch having few holds, then along another shelf and finally down a broken rock face to the foot of the cliff. By nightfall we had reached timberline, where we bivouacked for the night. In the morning Hans went out to reconnoiter, but soon returned, reporting an apparently unsurmountable cliff below. As it was our last day and we were without food, rather than take further chances, we decided to retrace our way around the northwestern shoulder of Mt. Whitehorn. About ten hours later we arrived at the Dennison and Brittain ranch, somewhat weary and most ravenously hungry.

Mountaineering in the Canadian Rockies Compared with That in the Sierra Nevada and Certain Other American Ranges

Methods used in climbing in the Canadian Rockies differ greatly from those in vogue in the Sierra Nevada. The formation of the mountains, the nature of the rock of which they are composed, their climate and vegetation all tend to differentiate them. The Sierra is essentially a great massif faulted up to a great elevation, sloping gently to the west, but breaking off abruptly to the east in a great escarpment some 8,000 ft. in height in the vicinity of Mt. Whitney, but gradually becoming lower to the north. On account of this



Photo, Walter L. Huber

AFTERNOON LIGHT ON MT. ROBSON

Photo, Norman Clyde

MT. WHITNEY FROM THE EAST

Photo, Norman Clyde

THE NORTH PALISADE AND THE PALISADE GLACIER

structure, many peaks that drop away sheer on the east decline rather gently toward the west, thus affording an easy means of ascent. There are, however, about a score of peaks in the Sierra, ranging from 12,000 to over 14,000 ft. in height, which are difficult to climb, and a considerable number of others generally regarded as being easy climbs, but which afford interesting scrambles up their more precipitous faces. Being composed for the most part of granite and various kinds of firm metamorphic rock, the peaks are generally comparatively free from loose and friable material. This, of course, conduces to safety in climbing them.

In the Canadian Rockies, on the other hand, the prevailing quartzite, limestone and slate possess much less dependable hand and foot holds, and the danger from rock slides and ricocheting fragments is much greater than in the Sierra. The stratification in the highest part of the range is not far from horizontal, and this, together with the less durable nature of the rocks, tends to the formation of large, roughly symmetrical masses, of which Mt. Robson is an example.

A still greater variation exists in the climate. In the Sierra, during summer, storms are, as a rule, seldom encountered, and those which do occur are usually of short duration. There is also little hazard from snow and virtually none from ice during that season, for the winter snow has by that time largely disappeared, and although there are numerous small glaciers scattered about in the range, only two are of any consequence—the one on the north slope of Mt. Lyell, and the series to the north of the Palisades—and no danger is incurred in traversing either of them. The only difficult ice climbing available in summer is found in the steep couloirs running up the north face of the Palisades and a few other peaks in the Sierra. Ice-falls are unknown.

Generally speaking, the peaks of the Sierra can be readily approached, especially from the west. This is due to the abundance of trails, to the absence of swollen streams and dense timber, and to the comparatively open character of a strip a few miles wide to the west of the crest of the range. For a distance of 100 miles along the highest portion of the range, one can follow the latter with ease on foot, and for a great portion of it, with no great difficulty on horseback. Timberline averages about 11,000 ft. above sea-level. One can therefore usually reach a Sierra peak and camp well up on its slope with comparative ease. In the Canadian Rockies, however,

lack of trails, heavy forest, turbulent streams and a low timberline sometimes render the approach to a mountain almost as strenuous as its ascent.

In consequence of these varied divergences between the mountains of the two regions there is considerable difference in the technique followed by climbers in them. That used in the Canadian Rockies is similar to methods current in the Alps and other northerly ranges, while mountaineers in the Sierra have developed a rather unconventional one.

Owing to the comparative absence of snow and ice, alpenstocks and ice-axes are seldom carried. The shoes worn are generally provided with ordinary hobnails, and basket-ball or other rubber-soled ones are often used in rock climbing, or in following the trails. Although light ropes are generally carried, members of climbing parties very infrequently rope together, even where this would undoubtedly be done in more northerly ranges. The result has been more or less individualistic climbing practices, having both strong and weak phases. On the one hand, it has rendered the typical Sierra climber rather self-dependent; on the other, it may be responsible for casualties which might not have occurred were the rope more commonly used, and were solitary climbing not engaged in to so great an extent, especially by inexperienced or rash persons. The difficulties and dangers of climbing in the Sierra are therefore to a large extent limited to loose and glaciated rock, and to the scaling of steep chimneys and faces and narrow knife edges.

In going from the Canadian Rockies to the mountains of the northwestern United States, one finds there more snow and different rocks. Usually a number of routes of varying difficulty are available up the great volcanic cones. Steep snow on ice-slopes, crevasses, ice-falls, walls or pinnacles of lava render some of them more strenuous and hazardous than others. In the Cascades of Oregon the rock is often friable volcanic material; in the Cascades and the Olympics of Washington it is usually granite or other forms of igneous rock of a dependable character. The climbers of both States have a highly developed snow and ice technique following Alpine models.

In the American Rockies, the Tetons have some resemblance to the Ramparts of Jasper Park. The Grand Teton is an unusually majestic mountain. Its ascent is primarily a rock-climb, and although a difficult one is not extraordinarily so. Its rock is everywhere firm, and the holds are usually fairly abundant. Mt. Moran, although

considerably lower, is a more hazardous peak. Two routes are available: one up a long steep couloir, the other up a rock face and along a shoulder of the mountain. The former is somewhat like, but not so long as, the one by which the first ascent of Mt. Geikie was made. It is so steep that a slip would be very dangerous to an unroped climber, and if the snow should be so firm as to prevent one from "kicking-in," a great deal of step cutting would be necessary. There is also danger from rock-slides, the snow often being deeply furrowed by them. The "rock route" is generally conceded to be difficult. The climbing of Mt. Geikie involves more arduous rock-work than that of the Grand Teton and the route is much more intricate. The ascent of the Grand Teton is, however, a harder climb than that of Mt. Bastion.

Mountaineering in Glacier Park is more nearly like that in the Canadian Rockies than any found elsewhere in the United States. The rocks—chiefly limestone and argillite—resemble each other in composition and stratification. However, in Glacier Park, on account of the relatively low altitude, the glaciers, though numerous, are with one exception small. The climbing is therefore, on the whole, a matter of rock rather than snow and ice work. Two ranges, the Livingstone and the Lewis, traverse the park in a longitudinal direction. The former has a moderately steep fault scarp to the west; the latter a very precipitous one to the east. Consequently the western face of the Livingstone and the eastern one of the Lewis are steep and often unscalable, while the opposite ones are frequently quite easy of ascent. There is, however, an abundance of moderately difficult and some really difficult rock-work. The majority of the peaks, particularly in the Lewis Range, being readily accessible from excellent trails, afford interesting excursions without the hardships attendant upon mountaineering in a great portion of the Canadian Rockies. The equipment and technique employed should be similar to those in vogue farther north, but there is not so much occasion for using a rope.

The Ascent of Mt. Redoubt

J. E. Johnson

THE Rampart Range, lying 25 miles by trail southwest of Jasper, Alberta, is perhaps one of the most striking of all the groups that compose the Canadian Rockies. The name is well chosen, for the eastern and northern walls of the range are tremendous rock cliffs almost 4,000 ft. high. Mt. Redoubt (*ca.* 10,200 ft.) stands at the northern end of the southern part of the range, and is the first peak to strike the eye of the traveler who comes in from the north. However, owing perhaps to the forbidding aspect of its eastern cliffs, and to the lack of knowledge of its southern slopes and the difficulty of access to them, it was not one of the first to be assaulted.

The first attempt on the mountain was made from the Alpine Club of Canada camp in 1926. A party consisting of T. B. Moffat, H. S. Hall, Jr., and the author, led by Hans Fuhrer, made an attempt by the great ice couloir that descends on the north.[1] The objective dangers were considerable and the difficulty was of a high order. The party reached the northwest ridge of Redoubt late in the afternoon and turned back from there.

In 1927, F. H. Slark, with F. Rutis, made an attempt on the mountain. This party unfortunately was lost, and no trace was found by a search party. It was reported that there was no cairn on the summit, so it was presumed that the peak was still virgin.

At any rate, D. L. Busk and I determined to attempt the ascent in 1928. Thus, early in August, accompanied by the guide, Hans Fuhrer, we arrived at the ranger's cabin on Maccarib Creek. From this vantage point, we searched the peak with glasses, and agreed with Goodair, the ranger, that there seemed to be no cairn on the summit. And a good look at the northern and eastern cliffs convinced Busk, who had not seen the mountain before, that any attempt must be made from the other side.

Next day we traveled on to join our outfit at the camp site. This was at an altitude of about 6,600 ft. in the band of timber that stretches along above the south shore of Moat Lake, but we

[1] *Canadian Alpine Journal*, Vol. XVI, p. 63.

were perhaps half a mile to the east of the end of the lake. The location was such that we were about equally distant from the two depressions in the divide on either side of Drawbridge Peak, and could reach either with a minimum of walking.

The plan was to bivouac in the col to the east, hereafter called "The Lookout," [2] and to begin the climb from there. The cliffs below this col looked too hard for a party laden with the impedimenta for a night at 8,300 ft.,[3] so it was decided to ascend Drawbridge Pass, west of Drawbridge Peak, and traverse the south slopes of that little mountain into the Lookout; this route Hans and I followed in 1926 in the opposite direction, and knew it presented no mountaineering difficulty.

Accordingly, the party, including the cook, Joe Weiss, set out on the afternoon of the 12th, carrying food, firewood and bedding. On the way we passed what we took to be the site of Slark's last camp, just at timber line below Drawbridge Pass, but we did not stop to look at it or to search for the monument that had been erected somewhere near.

It snowed most of that afternoon and continued to do so off and on during the night, so that Redoubt was in an impossible condition when we woke; but the weather was clearing and we determined to have a closer look while we were there. After traversing endless scree slopes intermingled with outcroppings of disintegrating ledges, we came face to face with the western cliffs of Redoubt, being separated from them by a broad, easy, rock couloir. Here, with a little pocket glass, we had a thorough look, but the answer was still in doubt: it was easy as far as the bottom of the lowest of three distinct bands of rock which form the true western face and reach right to the summit; we picked out a possible route to the summit, but only an attempt would show whether it was feasible. The snow did not prevent our reaching the cliffs, so we pushed on up and across the couloir. But almost as soon as we had put on the rope and tried actual climbing, the snow forced us off the face into a verglas-filled couloir, which was impossible, and we turned back.

On returning to the Lookout, we found the cook just about to descend a second time to timber line on the south, to pack up more wood in case we wished to spend a second night on the pass.

[2] Name suggested by C. G. Wates in 1927.

[3] Altitudes are approximate, but correct within 100 feet.

We stopped him, for a return to camp was in order; the mountain would not be ready for us for at least two days. The long, tiresome traverse back into Drawbridge Pass was frowned upon; we now had lightened loads, and we knew the search party in 1927 had ascended the north side of the Lookout,[4] so we determined to start straight down. The buttress proved surprisingly short and easy, and it was decided to abandon all idea of bivouacs and start any future attempt straight from camp.

Two days later, August 15, the weather having been excellent in the interval, we set out at four in the morning for the Lookout. An hour and a half of easy scrambling brought us there for a short pause, before the traverse into the big couloir. This traverse I had made three times previously—twice earlier in the week and once on the return from the expedition of 1926—always fairly late in the day, and without any thought of rock avalanches; but this day, early in the morning, we were surprised by a fall that did not miss us by more than 40 ft., and left at least one member of the party in an uneasy frame of mind.

However, without further mishap we reached the base of the final cliffs only three and a half hours from the camp. (It must be said here that the only watch in the party went by spasms and made the telling of time difficult and uncertain.) Here a large breakfast was indulged in, as the plan was to take only one rucksack with a small amount of food to the summit. The view was truly glorious: On our left lay the Fraser group, Keystone,[5] Bennington, MacDonell and Simon, with the great upper névé of the Bennington Glacier and its thousand feet of icefall; then came Casemate (on which we turned covetous eyes), and its little brother Postern, whose northern cliffs are the sheerest I know; below lay the bare glacier of Bennington, melting to form a circuitous Geikie Creek; far away to the west could be distinguished what must be the Cariboos; then on the right came the wall of the Western Ramparts—Geikie, Turret and Bastion, three great teeth piercing the morning sky.

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[4] C. G. Wates (*Canadian Alpine Journal*, Vol. XVI) says that the buttress was only ascended by means of a fixed rope. The route used by the search party was to the east of ours which followed closely the ridge on the true right bank of the western snow couloir.

[5] Peak (10,200 ft.) on the continental divide between Bennington and Paragon. The name is not official.

Photo. Ansel E. Adams

MT. REDOUBT AND DUNGEON PEAK
From the Northwest

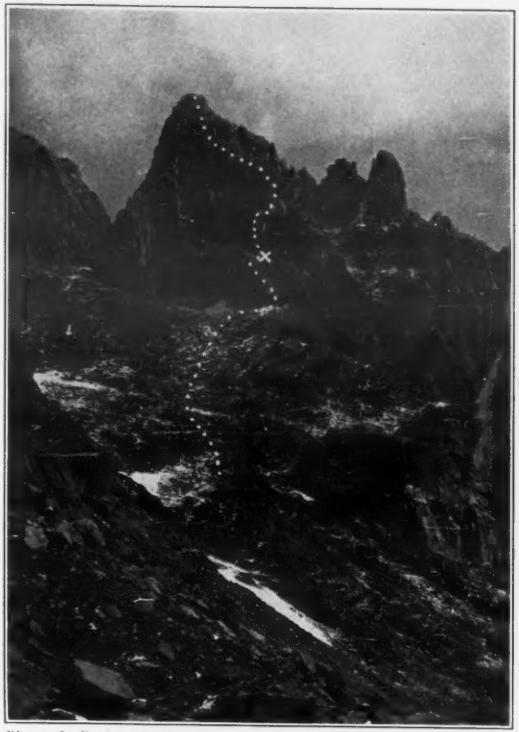


Photo. J. E. Johnson

MT. REDOUBT—ROUTE OF ASCENT
X marks breakfast place. Probable route of Stark and Rutla at left.

Photo. Norman Clyde

MT. POSTERN AND MT. CASEMATE
From the Inkwell

But the rope was on and it was time to start. Hans led up, carrying the only ice-ax. I followed with his lightened pack on my back, and Busk brought up the rear, traveling light. The climbing started immediately with a steep bit up a slanting chimney; even before Busk had left the breakfast place, Fuhrer was stopped by an overhang. After a futile attempt to surmount it, he started right into the mountain, disappearing from my view, but soon reappearing—to Busk—some 15 ft. over my head; at his word, I tied the sack on the rope, but had to follow to free it when it jammed. I found myself in a narrow, vertical crack, with the sky visible and the rope disappearing through a hole above my left shoulder (as I faced into the fissure); with some difficulty I turned around and squeezed through the hole to find Hans above me and the overhang surmounted. (I wish to make it clear that this was not a case of a chock-stone jammed in the chimney, but rather of the chimney running up under the face of the cliff where the latter overhung.) The chimney continued above this strange place, and more difficult climbing, always on extraordinarily loose rocks, brought us to the broad scree ledge at the top of the first band. Here we traversed to the right until the next band looked slightly easier, and continued the ascent, still bearing to the right and coming after a time into a vertical depression in the face. This is a couloir consisting of rock-worn and rock-strewn ledges, and is perhaps 50 ft. wide and quite steep; it extends from the base of the highest band of rock, which rises sheer above it, right down to the glacier.

We were forced to climb the ledges on the (true) right bank of the couloir for a few feet before working back onto the face on our left. As we were doing so, Hans suddenly called: "There's a rucksack!" He waited for us to join him, then dashed out into the couloir to retrieve it. A light tourist's sack was what he found; we opened it and examined the contents enough to satisfy us that it belonged to Slark, who had disappeared the year before in an attempt on the mountain, then cached it for further examination later, and proceeded on our way.

From the exposed position in the couloir and the battered condition of the contents, it was obvious the sack had not been left there, but had fallen for some distance. This gave us plenty of food for speculation and spread a feeling of uneasiness over all three.

MT. POSTERN AND MT. CASEMATE
From the Inkwell

X marks breakfast place. Probable route of Slark and Ruths at left.

The route now led away to the left out of the couloir, and soon brought us to a second broad ledge, the one separating the second band of rock from the final one. A traverse to the left, and a stiff scramble, and we were on a shoulder of the west ridge with the summit in sight. The final buttress of the ridge was turned by a short traverse onto the north face and an easy chimney, at the top of which we found ourselves a few feet from the summit and just below it—and there was no cairn!

It was probably fully as far and as long in time from the place where we found the sack to the top as it was from the breakfast place into the couloir, but I have little memory of the physical aspects of that part of the climb. My thoughts required most of my attention and they were not pleasant ones, but there was the human, if unsportsmanlike, hope that we might make a first ascent, and when no cairn was visible, that hope seemed realized.

But the satisfaction was short-lived, as we found a piece of brown wrapping paper lying among the rocks; this was the only sign of previous human presence, and I know that I, for one, tried to persuade myself that it might have blown there, a theory which reason made untenable. We looked all round, then sat down to eat a little chocolate; it was at this moment that I noticed something blue in a crack under a large block. This proved to be a cigarette tin and contained a sheet of paper rolled in tinfoil. On the paper was written:

> Redoubt, Aug. 3, 1927, 10 hrs. 25 min. from camp at foot of Barbican Pass[6] above Moat Lake.
>
> F. H. Slark, *A.C.C.*
>
> F. Rutis

We could no longer doubt, but our misgivings increased. They had fallen on the descent. Would we do the same? What had fate in store for us in the next few hours? A shot of whiskey helped the nerves, but did not ease the situation, especially as a few flakes of snow began to fall; fortunately, they were not many and soon stopped.

We gave a glance at the awe-inspiring north face of Dungeon and laughed ironically at an earlier plan to traverse the ridge from Redoubt to that peak, a ridge that seemed to me much more broken

[6] Obviously Drawbridge Pass was meant.

than the teeth of the Zmutt, and that I knew to be infinitely more rotten.

There wasn't much more to see, and we were in no mood to admire the scenery, so the descent was begun; we went as quickly as possible and, at the same time, I think we all were more cautious than ever before. The route of the ascent was followed; this would have proved extremely difficult had it not been for the small cairns Busk had built at strategic points and for his great skill in finding them again.

Thus in what seemed like a short time, we were back in the couloir where the rucksack was cached. We took such articles as might be of value in proving identity, and left the rest there. Another hour and a half saw us back at the "hole in the wall" and down to the breakfast place, with the difficulty all behind. As nearly as we could judge, this spot was between 600 and 800 ft. below the top, and it had taken us, traveling light, 7 hours, not including halts, to go up and down, or an average of about 200 ft. an hour, which, for a party of three, must be considered exceptionally slow. If the rock had been good, the climbing would have been of more than average difficulty, but the rock was so rotten that we had to move one at a time for practically the whole distance, and each move had to be made with extreme delicacy to avoid knocking loose rocks on the heads of those below. Many times the hand- and foot-holds were loose and would have broken away with wrongly applied pressure. We were extremely glad to have it over.

The rope off, we started rapidly across the big west couloir and the scree slopes for the Lookout, where it was necessary to rerope for the descent of the buttress. We were back in camp at 6 o'clock, just 14 hours after the start. Our guesses at the time seem to have been fairly accurate, for the cook had heard us on top at 11, which was the hour we thought right. I should say that the total time should be divided as follows: 7 hours for the ascent, an hour on top, and 6 for the descent.

My conclusions as to the accident are both definite and vague. I feel certain that the party tried to descend the inaccessible-looking cliffs just below the summit and above the couloir where the rucksack was found. On such a face I doubt whether anyone could hold another on the rope; perhaps one of them slipped; perhaps—and this is very likely on Redoubt—a hand- or foot-hold gave way and the climber fell, pulling the other with him. It is interesting

to note that in the rucksack, along with a camera and other articles, there was a pair of climbing boots; they seemed to me too small for Slark, who was a big man, and I concluded that Rutis was climbing in kletterschuhe and that Slark carried the other's boots in the only rucksack. This, however, will probably never be known, as we did not see the bodies, and they must be lodged somewhere in the lower part of the couloir.

Dr. J. W. A. Hickson[1] brings up the question whether the men were roped. I think they must have been, as no climber would go where they seem to have fallen without being roped.

I feel certain that Slark and Rutis did not ascend the west face or they would never have attempted to descend where they did. This leads to the conclusion, formed by the search party in 1927, that they ascended by the main or northwest ridge of the mountain, although this is by no means definite.

Owing to the looseness of the rocks and the steepness, Redoubt must be considered both a difficult and a dangerous climb, and now that the ascent has been made and verified, my advice is to keep off.

[1] *Canadian Alpine Journal,* Vol. XVI.

The Fairweather Mountains

W. S. Ladd

TO sail on salt water to the base of an ice-laden mountain range is a rare adventure. To disembark, step onto ice and begin an ascent of 12,000 ft. or more, involving glacier and rock work of the best mountaineering quality, all within a horizontal distance of ten miles from sea level, is only possible in a few places in the world. It is almost unbelievable to find this salt water in perpetual calm and always a haven for boats, its shores covered with splendid forest and a verdure of berries, ferns, grasses and flowers, the surrounding hills the range of numerous goat and bear: a region unique in its combination of sport and scientific interests, glorious in its thrilling wildness and massive grandeur. Such is Lituya Bay, the *Port des Français* of La Pérouse, the haven of Russian fur hunters one hundred and fifty years ago. The mountains are the Fairweather Range.

This range has been known for many decades and seen, but passed by, by thousands. Its culminating peak, Mt. Fairweather, lies less than twenty miles north of the bay and is a mountain of shining promise to those who would climb high. Its pyramidal central summit and broad shoulders, approached only by the steepest of great snow and ice arêtes, give delight in a symmetrical grace and beauty that I know of no other great massif. From an altitude of 3000 ft. its fluted walls rise almost too steeply for the mountaineer on every side. The snow and ice hang as though glued upon them. Upon every line of approach that the eye follows in an effort to plan a route to the summit there is some obstacle demanding the best art of the mountaineer.

Besides this great culminating summit rising 15,300 ft. above the sea there are several lesser peaks challenging the climber.[1] Some of these appear to be very difficult. From north to south these are Mt. Lodge (10,530 ft.), Mt. Watson (12,495 ft.), Mt. Root (12,800 ft.) and two unnamed peaks (11,000 and 10,750 ft.), all north of Fairweather. Mt. Quincy Adams (13,560 ft.) lies due east of Fairweather, connected with it by a great snow arête. South

[1] See bibliography for all references.

of Mt. Fairweather the next commanding peak is Mt. Lituya (11,750 ft.). Then comes a series of three lesser peaks all under 10,000 ft., but rising directly from the salt water of Lituya Bay. Toward the southern end of the range is Mt. Crillon (12,725 ft.), a fine individual massif. Mt. Bertha (10,182 ft.) lies to the east of Crillon, and terminating the range at the south is Mt. La Pérouse (10,750 ft.) with a nearby 10,000-ft. peak. From Mts. Crillon and La Pérouse the La Pérouse Glacier flows to, and at present breaks into, the Pacific Ocean south of Lituya Bay.

A traveler can leave New York, proceed to Prince Rupert by rail, thence by steamer to Juneau and hired motor boat to Lituya Bay, and reach this bay one week to a day from leaving the city.

So far as we know there has been only one attempt to climb in the Fairweather Range. This was reported by Allen Carpe in 1926.[3] During the same year there was a reconnaissance of the approaches from the east by W. Osgood Field.[3] These two papers should be consulted for an accurate description of the topography and location of the range.

This part of the Alaskan coast has been historic ground since the days of the Spanish and Russian navigators of the 18th century. It will be interesting to consider the historical background of this region now so little visited, the origin of the names and of some of the topographical notions which have gained currency about it since it was first frequented by white men. We shall refer briefly to Mt. St. Elias, because of its historical relation to the discovery of the Fairweather Range.

There have been errors in the literature referring to this region owing to the difficulty of obtaining the historical sources. The discovery of Mt. Fairweather has been attributed to both Bering and Chirikoff, one of his lieutenants.

Bering's second expedition[4] was composed of two ships, the "St. Peter," commanded by Bering, and the "St. Paul," commanded by Chirikoff. They sailed eastward together from Kamchatka in June, 1741. Part way across the Pacific the boats became separated and both continued to the coast of Alaska without sighting each other.

The "St. Peter" sighted land on July 15, and again on the 16th Steller says:[5] "I cannot recall having seen higher mountains anywhere in Siberia or Kamchatka." The log of the "St. Peter"

mentions one of the mountains as a high volcano. (Snow or fog or dust blowing from the summit? This erroneous conception of Mt. St. Elias was frequent in later years for this reason.[6] Or it may have been merely that its shape resembled a volcanic cone.) The identification of this high mountain as probably Mt. St. Elias was made by Capt. E. P. Bertholf, who carefully worked out the corrected courses of the two ships.[4] The "St. Peter" proceeded in a northeasterly direction and on July 20 reached Kayak Island. This island was named *St. Elias Island* by Bering, for it was made on the day of that Saint. The southwestern extremity of the island was called Cape St. Elias. Many years later Cook[7] sighted and named Mt. Fairweather, 4:30 A.M., Sunday, May 3, 1778, "with a fine gale at northeast, and clear weather." The next day he saw and named Mt. St. Elias.

The "St. Paul" fell in with land at the northern end of Chichagof Island and proceeded in a northwesterly direction, sighting "very high snow-covered mountains" on July 26. From the position of the ship on that day it is probable that this was Mt. Fairweather and its range, as the boat was off Lituya Bay.[4] Chirikoff may or may not have seen Mt. Elias; within the next day or two he was as close to it as Bering had been on the "St. Peter." Bering, on the other hand, probably did not see Mt. Fairweather, as he was too far to the northwest.

Soon after this voyage, the Russians exploited the fur industry around the shores of the Gulf of Alaska. Settlements were established at various places, notably Kodiak Island, Yakutat Bay and Sitka.[8]. Great fleets of as many as 400 *bidarkas* with Russian mother ships paddled and sailed eastward along the coast from the Aleutian Islands as far as Sitka.

The discoverer of Lituya Bay, and an important contributor to the geography of the region, was La Pérouse.[9] He called the bay *Port des Français*. He found it while looking for a salt water passage across North America, and until he observed the wall of mountains at its eastern end he thought he had succeeded in this illusive but persistent dream of his time. La Pérouse made Lituya Bay in June, 1778, and stayed there until August. We have his excellent chart, based upon a careful survey preserved among his records, together with profile drawings of the coast as seen from the ocean, and a picture of the disaster which befell twenty-eight of his men in the narrow and perilous entrance to the bay. The

picture compares well with photographs made from the same point. The story of this accident, together with the notes on the inhabitants of the bay, their customs and industries are well worth reading by anyone who intends visiting this spot.

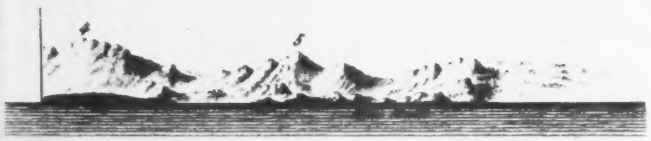
La Pérouse's published views of the coast,[10] in the vicinity of Mt. Fairweather, show two glacier tongues—he does not use this term in the text but such is the evident interpretation of the engraving—at the points designated *C. Beautems* and *G^d. Plateau.* Between them is a wooded hill. Further north we come to another hill, set a little back from the shore, and then to *Baie Behring,* the present Dry Bay; La Pérouse called the Alsek River *Behring's River.* Some distance beyond this is *Baie Monti,* the *Port Mulgrave* of Dixon, a part of Yakutat Bay. To the south of *C. Beautems,* separated from it by hills and a stretch of wooded coast, is the *Port des Français.* In the background rise Mt. Fairweather and Mt. Crillon, the latter appearing here for the first time and apparently named by La Pérouse. This view is in good agreement with the topography as we know it today and is the first accurate record of the region.

In June, 1791, Capt. Alessandro Malaspina explored the coast from Chugach to Fairweather.[11] He measured the altitude of Mt. St. Elias as 17,651 ft., that of Mt. Fairweather as 14,695 ft. In 1796 Schulz,[12] for the Shelikoff Company,[13] explored Lituya Bay and the head of the Lynn Canal. At about the same time Bechareff and Ismyloff also explored south to Lituya Bay.[14]

In July, 1794, Vancouver passed Cape Fairweather.[15] He describes the mountains, and a glacier, with curious speculations as to its origin; its exact identification is difficult.

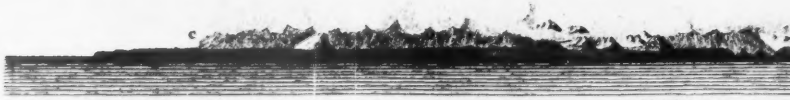
A Russian map by Tebenkof,[16] dated 1849, shows an ice-mass adjacent to Dry Bay, in the position of the *G^d. Plateau* of La Pérouse. The river is called the *Alsekh.* This and other Russian charts[17] were the sources for the first U. S. maps of the region, and although criticized by Dall,[18] are on the whole in agreement with La Pérouse and with the actual topography.

In 1874 Wm. H. Dall and Marcus Baker visited this portion of the coast.[19] Dall gave the name Mt. La Pérouse to "a high peak near the sea at Icy Cape, just south and east of Lituya Bay." This describes also fairly well the position of Mt. Crillon, but Dall knew La Pérouse's data and the mountain which he called La Pérouse is certainly the one bearing that name on the map today.



Suite de la 1ere Vue, *prise en* A.

Suite de la 2e Vue



3e Vue, *prise*

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VUES DE LA CÔTE DU NORD-OUE
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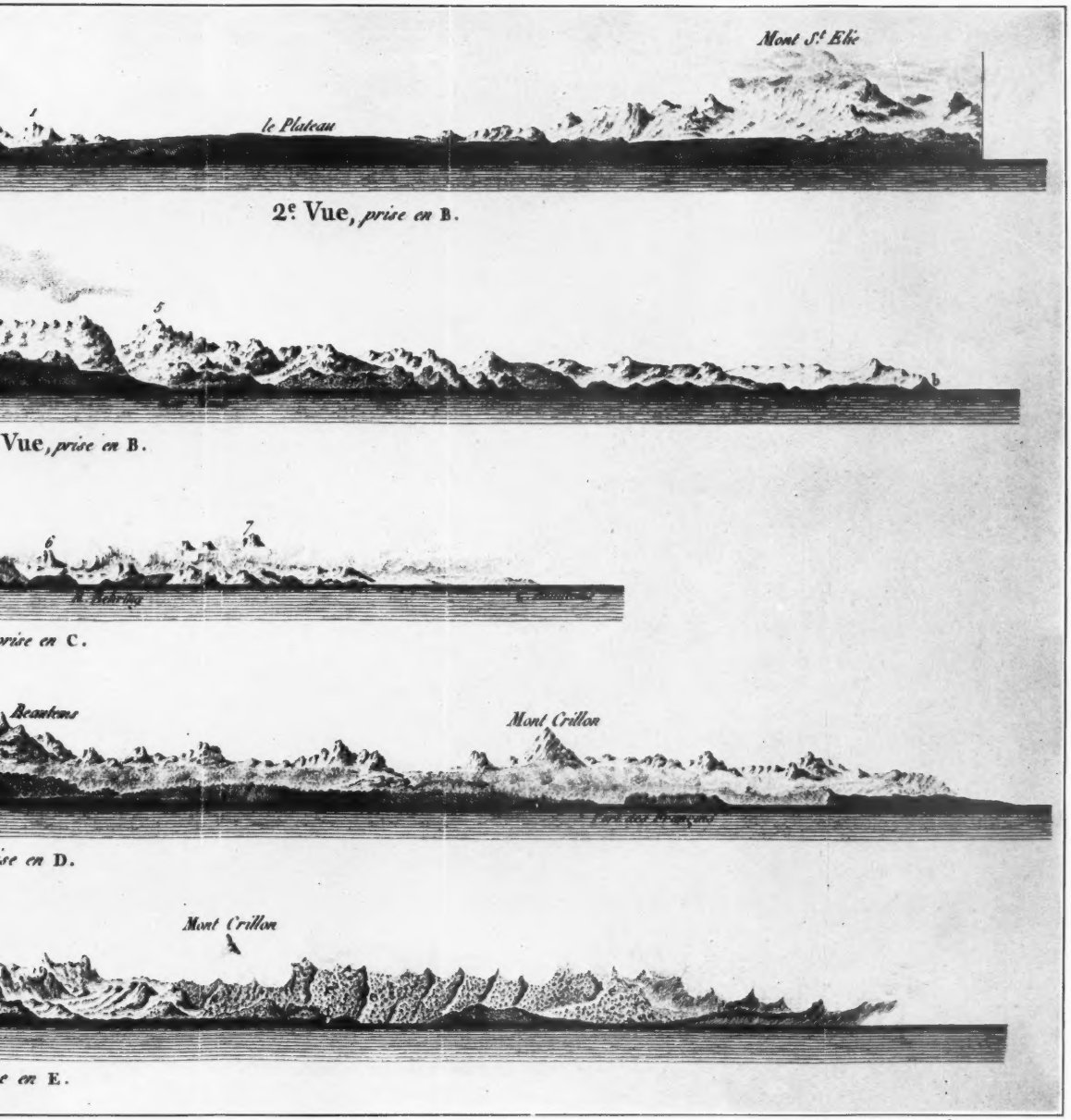

ATLAS DU VOYAGE DE LA PÉROUSE NO. 18.

D-OUEST DE L'AMÉRIQUE
SSOLE et l'ASTROLABE en 1786. 1ere Feuille.
o 5 only]

Dall made triangulations of Mt. Fairweather and Mt. Crillon, estimating their altitudes as 15,300 ft. and 15,900 ft., respectively.[14] This is probably the reason why John Muir refers to Mt. Fairweather as "not the highest" in the range.[19] Or it may have been that Muir identified the peaks incorrectly from the head of Glacier Bay.

The name "Grand Plateau Glacier" appears for the first time on a map accompanying Dall's first report.[14] Its location agrees with the Russian sources and with the *G^d. Plateau* of La Pérouse. In subsequent publications, however, the name is applied more loosely as to location, and the size of the ice-sheet is increasingly exaggerated. It is evident that Dall did not land, and that he was much handicapped in observations from ship-board some distance off shore. In 1883 he writes:[18] "From the mast-head of the U. S. Coast Survey schooner Yukon in 1874, seventy-five feet above the water, no end could be seen inland to this vast plain of ice, nor could any high land be seen north from it." In 1896:[20] "Coasting within a few miles of the shore, as we did in 1874 and 1880, this seems an illimitable plain of ice. . . ." It subsequently was thought to be nearly as large as the Malaspina and Bering Glaciers.[22] The Atlas of Award of the Alaskan Boundary Tribunal,[23] sheets 16 and 19, and other maps of recent date,[24] show a large coastal ice-sheet, designated "Grand Plateau Glacier," extending from Cape Fairweather to a point immediately southeast of Dry Bay; in other words, the *C. Beautems* and *G^d. Plateau* glaciers of La Pérouse are merged into one. This condition was carried over to the preliminary issues of the International Boundary Commission map available to us in 1926; it should be understood that the Boundary Survey occupied no stations between Lituya Bay and Dry Bay, and was not responsible for the mapping of incidental topography not required in fixing the boundary.

Such was the condition existing in 1926, when we landed some miles north of Cape Fairweather for a reconnaissance and possible ascent of Mt. Fairweather. This part of the coast, now deserted, had been at times during the past hundred years or more the residence of thousands of Indians,[8 21] and had been visited frequently by white men in search of gold or furs; but no such accurate description as that of La Pérouse had since been made. Probably no other group of men, at least none leaving a record of their travels, had ever penetrated inland any distance from the beach. Certainly it

seems that the expedition of 1926 was the first to observe from a commanding elevation what others had incompletely viewed from ships.

We found that the coast from Lituya Bay to Dry Bay is paralleled by a broken range of hills, forming a continuation of those shown on recent maps only just northwest of Lituya Bay, and again immediately southeast of Dry Bay ("Deception Hills"). Between these hills and the main range of Mt. Fairweather is a relatively narrow trench running from the head of Lituya Bay to the Alsek, which is filled for the most part, but not completely, with ice. Glacier tongues protrude from this toward the coast between the hills, but only two of these are of large size.

The most southerly one coincides with the *C. Beautems* of La Pérouse and forms Cape Fairweather by pushing its partly forested moraines into the ocean.

The most northerly one corresponds to the *G^d. Plateau* of La Pérouse and lies southeast of Dry Bay and the Deception Hills.

Both of these glaciers reach to within a fraction of a mile of tidewater and have a width of several miles. Between them, the timbered area extends from four to six miles inland, and trees are found also on the spurs of Mt. Fairweather on the east side of the longitudinal glacial trench. The glacier utilized for our approach in 1926 is the next one north of Cape Fairweather and does not reach within five miles of the coast. The coastal hills are 2000 to 3000 ft. high and are apparently composed of a sedimentary rock distinct from the highly metamorphosed material of the western slopes of Mt. Fairweather; their eastern escarpment, bounding the longitudinal glacial trench, is abrupt and of a great regularity.

Upon our return, photographs and data on the topography of the coast were submitted to the International Boundary Commission, and the nomenclature was discussed with members of the U. S. Geographic Board. Sheets 11 and 12 of the Boundary Commission's maps, which are now available, were modified accordingly, both along the coast and to some extent on the slopes of Mt. Fairweather.* The name "Grand Plateau Glacier" has been given to

* The party of 1926 followed the stream designated "Seaotter Creek." A curious error exists in the showing of a lake behind the coastal hill *north* of this point; the lake should be four or five miles southeast of the indicated position, between the next hill to the south and the spur of Mt. Fairweather.—[Ed.]

MAP OF ALASKAN COAST FROM I
(From International Boundary Atlas, P

T FROM ICY POINT TO DRY BAY
lary Atlas, Part II, Sheets 11 and 12)

the ice-sheets which debouch toward the sea immediately south of the Deception Hills, thus restoring, we believe, the original usage of La Pérouse. The glacier which comes down to Cape Fairweather is called locally the "Fairweather Glacier," which seems topographically logical.

The coastal plain and hills from Lituya Bay to Dry Bay, except for that portion occupied by the ice-tongues, are forested with characteristic north Pacific Coast vegetation. Fir, spruce, cedar, hemlock, pine and poplar are the chief trees, many of which attain a diameter of two or three ft. The summits of the coast hills are in large part rounded off and when not covered with snow form luxuriant grassy meadows.

There are apparently no caribou, moose, deer, elk or sheep on the western side of the Fairweather Range. Why this is so we do not know, for the country could easily support them. Brown and black bear, foxes and goat were the animals commonly seen; also many small animals and birds, including humming birds. Eagles are plentiful, and seal or sea-otter were seen in the water.

Lovers of the sport of mountaineering will find no more glorious setting than the Alaskan Coast Range. Here are not merely climbs, up and down from a valley base; for those who seek these great summits will live and have their being upon the heights. From camps perched on high glaciers they will see the sun set in the placid Pacific, and will thrill with John Muir to the "strange unearthly splendor" of the dawn on the peaks of the Fairweather Mountains.

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Moods of the Mountains and Climbers

M. M. Strumia

HAVE you ever asked yourself: What is in back of a climbing narrative that we read? "On such and such a day we left so and so, with so many horses and so many humans." Or: "On such and such a day, with the sun shining brightly, or the rain pouring, we left with one guide or two guides." The narrative proceeds: "In the afternoon of a hot July day we reached the top and all we could do was to sit down and eat." Or: "Step-cutting was endured for one hour under falling stones." Is that the essence of climbing?

Now, after reading any of hundreds of narratives, let us look upon our own selves, and read back from our memories or our notes. A siege of questions will swarm about us. Why do we climb? Why do we go to all that trouble? What do we expect of climbing, and what do we get? Do we seek health in climbing, or do we attempt suicide? Is it the sporting element that attracts us, or the contemplation of a new world? Are we explorers or artists in our climbs? Do we wish to get away from our fellow-beings, or from ourselves? Perhaps we shall never know the philosophical truth of these queries; perhaps it is better if we do not; but there are circumstances within and without ourselves that actually determine our state of mind, and give a definite tone to our climbing. Whether we view the mountains with the eyes of an artist, or with those of a sportsman, with the eyes of a

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In the text, *sensations* are considered purely in an objective fashion, that is: simple perceptions of an external object, without participation of personal criticism except for variations due to physiological conditions.

By *contemplation* I mean the perception of an external object, accompanied by a series of thoughts which, while excited by the actual sensation, may be partly independent from it. This is an objective as well as subjective process, and therefore the personal elements, both characteristic or permanent and physiological or transitory, have some bearing.

By *meditation* I mean a critical mental process based on memories of actions and sensations but independent from actual actions or sensations. This being a purely subjective process, the personal factors mentioned before play an essential rôle.

dreamer, or those of a poet; whether we have faith or we do not; whether we have a philosophical training or not; whether we are used to apply a strictly scientific criticism to the acts of our life, or take it just as it comes; whether we have had a good breakfast; whether it is sunny or rainy; whether the company suits us or we would rather see it ten miles away; whether we are in good training or not; whether our shoes fit us well—these will make all the difference in the world. They mean as much as joy or sorrow, excitement or depression; the uplifting of all our imaginative forces or their complete crushing under a heavy load of gloom.

The sum of impressions which one derives from intercourse with the mountain world is based essentially on two fundamental factors. The first one is the particular state of our mind at the moment, and the other is the condition of the mountain at the time of observation. These two elements are so closely interwoven that it would be impossible to consider them separately.

The form and shape, pure and simple, of a mountain, regardless of all other conditions, have the tendency to create a definite train of thoughts: a sharp, neatly outlined peak rising well above the neighboring mountains will always produce a peculiar sense of elevation; a sharp feeling of desire to rise. So appeared to Hainsworth and myself Mt. Sampson, across Maligne Lake. We had battled a storm coming down the great northern face of Mt. Charlton; we were tired and wet; the fog had kept our eyes glued to the broken ice surface for hours. The upward sweep of the peak acted as a spiritual lift, and our minds followed the eyes up the sharp ridges in an unbroken rise to the top with a keen sense of exhilaration. The same spiritual stimulation has made famous the Matterhorn as seen from the Riffel. The pleasure from its contemplation is not purely aesthetic, it involves a deeper sensation of possession which is not surpassed by the actual climbing of the peak. This effect, however, is obtained only when the mountain is viewed from a distance; at close quarters that same wall that looked so cheerful and inviting is still beautiful, but at the same time repellent. The new sensation is not due to a change in the mountain, but to our appreciation from a different viewpoint: the detail of the rock, the formation of the snow, reveal technical difficulties; the scale of the mountain appears at its true value, and we feel the element of doubt. Fear, Spinoza says, is unhappiness born of a past or future event of which we doubt. The fight during a climb is appar-

ently against the inanimate rock, actually against our subconscious fear; from overcoming that we derive the greatest satisfaction. Our relative height has a definite bearing on the effect that a peak will produce on us. From the Rifugio Luigi Amedeo, I contemplated with desire the great Dent d'Hérens for hours. From the summit of the Matterhorn I barely looked at it; for the moment being, it was no longer an object of desire: I was *above* it. Because of my position I was brought to think more of myself and less of the peak. It is seldom that we appreciate fully the beauty of a peak which we view from above. The flat line of an Alpine panorama from a high peak does not usually furnish the element of desire; it does not stimulate our appetite for possession. We would lose some of our admiration and respect for the great Matterhorn if we should habitually see it from 16,000 feet in the air.

A flat-topped peak may be beautiful, but it will never produce a distinct sense of elevation; in its make-up there is more majesty than grace, and the impression that one receives is more of a restful nature than of mental exhilaration.

The conditions of the foreground and background are other all-powerful elements in changing the impression that a mountain will produce. Low intervening valleys and ridges make the Meije Group, as seen from the Col Sestrières, a thing of great height. I shall never forget the impression received from my first view of the Ramparts across Amethyst Lake, whence seemingly the mountains sprang as if to cut the sky with their defiance. Thorington and I, in 1926, were returning to our high camp from a disastrous attempt on Lyell 3, that ended in the midst of a storm. Just before reaching camp it suddenly cleared, and there in front of us, its head piercing a cloud, stood Mt. Forbes, loftier than the sky itself. Fatigue and depression disappeared.

The condition of the sky may add to mountains or render them insignificant. The first time that I saw the beautiful head of Glacier Valley in the Northern Canadian Rockies was on a sunny day. The flat foreground with the brook running amongst borders of flowers, the glittering glacier framed by the stark spruces, and the sky immensely far and blue, lent prestige and glory to the background of peaks otherwise not impressive. Altogether the scene expressed a joyful mood. But a few days later, in the glowing evening sky, dark clouds gathered, and soon they were molded by the wind into a heavy canopy; the mountains were lost,

pinned under the rolling swell; their silhouette was simply the outline of the stormy sky. The impression was decidedly depressive.

A storm is always a depressing sight in the mountains, especially because of the loss of color and the realization of approaching or actual danger. On a clear summer day, By, in the upper Valpelline, at the foot of the Grand Combin, is an idyllic place; the huge green amphitheatre, with the scattered huts and the music of bells coming from afar, gives an indelible impression of rest, peace, contentment almost mystic. The background of mountains adds majesty and interest to the scene, but it does not change the main impression.

I returned there on a wintry, stormy day: the peaceful green was lost; the silence during the lulls of the storm was tragic, and the wind shattered even the memories of the place. I could not recognize it; the impression was one of utter desolation. If the climber, however, happens to be out of the storm, at the window of a comfortable hut, and if nearby a fire glows and crackles, as the aroma of good soup permeates around, then his Lucullian self-satisfaction will be enhanced by the sight of the outside misery a thousand-fold. That is one time when we will enjoy a storm.

Of course, if we achieve success against a stormy mountain, that will proportionately increase our satisfaction. A storm is almost invariably pleasing when it is viewed at a distance of time through pictures or memories. The unpleasant sensations, or better, their memory, will have faded away faster than the memory of the other sensations connected with the storm, the fast-changing colors, the immensity of the spectacle, the satisfaction from winning over the elements. In such condition, the storm will come to our mind clothed only in the pleasing elements, because the human mind, after all, desires to be fooled; its reactions to the good and the bad, while originally the same, in time will not remain balanced, and the memory of the pleasant will always finally completely obliterate the unpleasant.

But the greatest animators of the mountains, those that shape our thoughts and move us, are light and color. In the shadows of the night, mountains are supremely oppressive and overpowering. We look at them as primitive man must have viewed them, as animated giants, bent on death and destruction. As the first light breaks through the clouds over the cliff, our eyes remain glued to it; the peaks themselves, appearing barely as silhouettes, do not

directly interest us. In the early morning marches our thoughts are usually afar; for the sleepy mind still refuses contact with the unseen world. We seek refuge in the past; in memories. But the symphony of light is coming upon us, slowly displaying its eternal melodies. At first the depressive violet hues are still incapable of distracting our slowly awakening minds from the world of introspection. But the red and orange follow, and we are now again wondering at the world that is shaping itself about us. The melody grows and the voice of the morning breeze and the chattering falls slowly join in the gigantic crescendo. Then light creeps over the ridges and down the valleys, and this daily miracle almost surprises us; the glowing glory of the sky and peaks appears as an immensely far thing to us still in the dark, and we can hardly conceive that it will bring warmth. Now the light is upon us: we talk, we walk faster; we begin to look around with the intent of seeing and admiring rather than in suspense of the unexpected. The body is warm from a brisk walk on easy ground, the slow passing from obscurity to light, through a succession of colors from depressing bluish-violet shades to the more exciting red and yellow part of the spectrum, has brought us from deep slumber of the senses to full activity of life and sensations. Now, if at once we come to the beginning of a difficult rock climb, all of a sudden this ascending, uplifting series of sensations and thoughts stops. This occurred to me on the southeastern ridge of the Grand Combin. With crampons we had, favored by the early morning frost, frolicked up the snowy arête at a great clip. Then suddenly we came face to face with the cold, repellent rock. A most uncomfortable sensation was experienced because our muscles were not yet adjusted to the movements that a short time later afforded the greatest pleasure.

Another sudden change takes place when we begin a difficult climb: we are more or less contemplative in the morning; from this state of mind we have to pass abruptly to a dynamic exploit. This quick transition is just as agreeable as passing from a warm bed to an ice-cold shower. It may please some essentially athletic constitutions, but it does not, in the great majority of cases, give satisfaction. After we become accustomed to the climb, and begin to enjoy the acceleration of our movements, then our mind passes slowly from the contemplative to the purely sportive mood.

As the symphony grows to a solemn largo, and the world opens to our eyes, we expand from our little shell and lose ourselves in

the immensity of space and power. We are now used to motion and are fresh of strength; we rush to the rock and like its roughness, delight in the slow dragging of the body up its thin edges, and break from the embrace of a chimney with the fury of inspiration. What do we think in such moments? Not much. In fact, those moments of desperate struggle are mentally almost sterile. There is no meditation, only flashes of contemplation. The euphoria is that of a rhythmic body movement, with the satisfaction that comes from conquering. We think of the mountain as a living thing and we fight it. In reality we are winning over our reluctance and our fears: we are preparing ourselves, purifying our mind, melting our sensations for the mold of new thoughts. We perceive the greatness of the mountain only through the fight it gives us; and if we win we are brought to think more of ourselves. The long hours of toil through tottering séracs, the slow progress over and along trenches of green ice are, for all but the head of the rope, more meditative. Body and mind become sluggish in the long waits; we welcome the return to rocks, the warm, sunny friends where again we reduce our attention to a small circle; where we concentrate and intensify our mental activity to the technicality of holds and rope. This struggle is necessary; how otherwise could it form within us that exaltation, that sublime folly that will send our bodies over the last difficulty to that ephemeral triumph in which we idealize the victory over all oppositions of life? We cannot be successful in the search for universal knowledge, but here we win, over and against our weakness and against the power of nature.

In the days in which climbing occupied most of my life, but when the mind had not as yet seen much of the inner light of it, we chanced to tackle the great virgin north face of the Becca di Monciair, in the group of the Grand Paradis. Winter was selected because there was no hard ice, but we struck a stormy day. We were glued, three of us, to that terrific wall for twelve hours: over 1,500 feet of smooth ice and hard snow, that sweeps upward with an unbroken curve to a maximum of 60° in two approaches of the upper ridge. We cut over 1,000 steps, we had badly frost-bitten extremities; several eyelets of the crampons broke because of the intense cold when we struck rock near the summit; we could not take anything warm, as the wind was too high when we reached the top; the water was frozen in our canteens. All day long the storm

raged, and down that inexorable wall hard pellets of snow ran in a continuous cascade. On the descent one of us became blinded. At times we could not see each other; we could hardly communicate. There was no contemplation; no meditation; intense physical suffering: but we won, the greatest victory and the most intense sensation ever experienced in twenty years of climbing.

But this is not always what happens when we reach the summit. Our bodies are usually tired, but our senses are still alert, and we admire. Those are great hours, not only because they are hours of victory, but because we are getting closer to the essence of the mountain. Through fatigue we have exhausted our sporting mood; the material conquest is consummated; now we admire and think. The subject of our contemplation, all other conditions remaining the same, is determined mainly by the degree of our fatigue. If we are completely without sense of muscular labor, we will be restless and less appreciative of the outer world. We may or may not be introspective. If we could be brought to the summit of a peak without fatigue, the sensations would be entirely different than on viewing the same subject after a climb. A prominent place is only a condition to enjoy contemplation; it is not contemplation itself. On the other hand, fatigue is not essential to contemplation or meditation; it simply modifies them, gives them a more heroic tone. When we are not fatigued we desire more worlds to conquer; we look at the higher things, desire that sharp ridge or that great wall. We plan for the future, and the present means little to us. But fatigue changes the response of our senses. If we are extremely tired, we will take in only the gross features of the surrounding panorama; our discomfort will make us susceptible to anything suggestive of a contrast to our physiological condition. If, from the top of a rocky peak, after a long march in snow, we gaze on the valley below, and we have no water to drink and nothing but rocks to lie on, our eyes will be fixed on the soft curve of fields with a silvery thread running through them, and the brown roofs of huts lost in the peace of the green. That sort of sight will attract, unconsciously, our eyes, and we will admire it more than the majesty of a neighboring peak. Were we less tired, we should look for something above us, something that promises a battle and not rest.

The sensation that we get after a fatiguing climb and the one that we get after a fatiguing but interesting climb are also alto-

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A storm is always a depressing sight in the mountains, especially because of the loss of color and the realization of approaching or actual danger. On a clear summer day, By, in the upper Valpelline, at the foot of the Grand Combin, is an idyllic place; the huge green amphitheatre, with the scattered huts and the music of bells coming from afar, gives an indelible impression of rest, peace, contentment almost mystic. The background of mountains adds majesty and interest to the scene, but it does not change the main impression.

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directly interest us. In the early morning marches our thoughts are usually afar; for the sleepy mind still refuses contact with the unseen world. We seek refuge in the past; in memories. But the symphony of light is coming upon us, slowly displaying its eternal melodies. At first the depressive violet hues are still incapable of distracting our slowly awakening minds from the world of introspection. But the red and orange follow, and we are now again wondering at the world that is shaping itself about us. The melody grows and the voice of the morning breeze and the chattering falls slowly join in the gigantic crescendo. Then light creeps over the ridges and down the valleys, and this daily miracle almost surprises us; the glowing glory of the sky and peaks appears as an immensely far thing to us still in the dark, and we can hardly conceive that it will bring warmth. Now the light is upon us: we talk, we walk faster; we begin to look around with the intent of seeing and admiring rather than in suspense of the unexpected. The body is warm from a brisk walk on easy ground, the slow passing from obscurity to light, through a succession of colors from depressing bluish-violet shades to the more exciting red and yellow part of the spectrum, has brought us from deep slumber of the senses to full activity of life and sensations. Now, if at once we come to the beginning of a difficult rock climb, all of a sudden this ascending, uplifting series of sensations and thoughts stops. This occurred to me on the southeastern ridge of the Grand Combin. With crampons we had, favored by the early morning frost, frolicked up the snowy arête at a great clip. Then suddenly we came face to face with the cold, repellent rock. A most uncomfortable sensation was experienced because our muscles were not yet adjusted to the movements that a short time later afforded the greatest pleasure.

Another sudden change takes place when we begin a difficult climb: we are more or less contemplative in the morning; from this state of mind we have to pass abruptly to a dynamic exploit. This quick transition is just as agreeable as passing from a warm bed to an ice-cold shower. It may please some essentially athletic constitutions, but it does not, in the great majority of cases, give satisfaction. After we become accustomed to the climb, and begin to enjoy the acceleration of our movements, then our mind passes slowly from the contemplative to the purely sportive mood.

As the symphony grows to a solemn largo, and the world opens to our eyes, we expand from our little shell and lose ourselves in

the immensity of space and power. We are now used to motion and are fresh of strength; we rush to the rock and like its roughness, delight in the slow dragging of the body up its thin edges, and break from the embrace of a chimney with the fury of inspiration. What do we think in such moments? Not much. In fact, those moments of desperate struggle are mentally almost sterile. There is no meditation, only flashes of contemplation. The euphoria is that of a rhythmic body movement, with the satisfaction that comes from conquering. We think of the mountain as a living thing and we fight it. In reality we are winning over our reluctance and our fears: we are preparing ourselves, purifying our mind, melting our sensations for the mold of new thoughts. We perceive the greatness of the mountain only through the fight it gives us; and if we win we are brought to think more of ourselves. The long hours of toil through tottering séracs, the slow progress over and along trenches of green ice are, for all but the head of the rope, more meditative. Body and mind become sluggish in the long waits; we welcome the return to rocks, the warm, sunny friends where again we reduce our attention to a small circle; where we concentrate and intensify our mental activity to the technicality of holds and rope. This struggle is necessary; how otherwise could it form within us that exaltation, that sublime folly that will send our bodies over the last difficulty to that ephemeral triumph in which we idealize the victory over all oppositions of life? We cannot be successful in the search for universal knowledge, but here we win, over and against our weakness and against the power of nature.

In the days in which climbing occupied most of my life, but when the mind had not as yet seen much of the inner light of it, we chanced to tackle the great virgin north face of the Becca di Monciair, in the group of the Grand Paradis. Winter was selected because there was no hard ice, but we struck a stormy day. We were glued, three of us, to that terrific wall for twelve hours: over 1,500 feet of smooth ice and hard snow, that sweeps upward with an unbroken curve to a maximum of 60° in two approaches of the upper ridge. We cut over 1,000 steps, we had badly frost-bitten extremities; several eyelets of the crampons broke because of the intense cold when we struck rock near the summit; we could not take anything warm, as the wind was too high when we reached the top; the water was frozen in our canteens. All day long the storm

raged, and down that inexorable wall hard pellets of snow ran in a continuous cascade. On the descent one of us became blinded. At times we could not see each other; we could hardly communicate. There was no contemplation; no meditation; intense physical suffering: but we won, the greatest victory and the most intense sensation ever experienced in twenty years of climbing.

But this is not always what happens when we reach the summit. Our bodies are usually tired, but our senses are still alert, and we admire. Those are great hours, not only because they are hours of victory, but because we are getting closer to the essence of the mountain. Through fatigue we have exhausted our sporting mood; the material conquest is consummated; now we admire and think. The subject of our contemplation, all other conditions remaining the same, is determined mainly by the degree of our fatigue. If we are completely without sense of muscular labor, we will be restless and less appreciative of the outer world. We may or may not be introspective. If we could be brought to the summit of a peak without fatigue, the sensations would be entirely different than on viewing the same subject after a climb. A prominent place is only a condition to enjoy contemplation; it is not contemplation itself. On the other hand, fatigue is not essential to contemplation or meditation; it simply modifies them, gives them a more heroic tone. When we are not fatigued we desire more worlds to conquer; we look at the higher things, desire that sharp ridge or that great wall. We plan for the future, and the present means little to us. But fatigue changes the response of our senses. If we are extremely tired, we will take in only the gross features of the surrounding panorama; our discomfort will make us susceptible to anything suggestive of a contrast to our physiological condition. If, from the top of a rocky peak, after a long march in snow, we gaze on the valley below, and we have no water to drink and nothing but rocks to lie on, our eyes will be fixed on the soft curve of fields with a silvery thread running through them, and the brown roofs of huts lost in the peace of the green. That sort of sight will attract, unconsciously, our eyes, and we will admire it more than the majesty of a neighboring peak. Were we less tired, we should look for something above us, something that promises a battle and not rest.

The sensation that we get after a fatiguing climb and the one that we get after a fatiguing but interesting climb are also alto-

gether different. The situation of having surmounted unusual difficulties produces an excessive appreciation of our own ego. Under these conditions we will not feel fatigue nearly so much as we would otherwise. The keen enjoyment felt at such times is not greatly modified by the sort of scenery which appears to our eyes from the top. We have grown superior to the external world; such thoughts as "I have succeeded in climbing something difficult, something that, perhaps, I did not expect to climb" form the "Leitmotif" of our mind. After victories of that sort we are, as a rule, more excited, but at the same time we are the least distracted by the surrounding scenery, except for the fact that we are looking from a height upon lowly things.

The simple cessation of muscular motion when we are fatigued naturally produces relaxation and, therefore, a pleasant sensation. In fact, whenever, for any reason, at the time when we expect to have reached the end of a fatiguing climb, we find that we are still far from the top, the disappointment is extremely keen. Every climber has felt that disappointment at one time or another; it is not at all due to something that we do not see, because the panorama may be perfectly beautiful. It is not due to lack of color; it is simply because the continued fatigue has depressed our sensibility, and the disappointment has made us just a trifle mad. Fatigue, *per se* undesirable, is a fertile ground for simple psychological observations. As our senses are tired with the rest of the body, contemplation is painful. We turn away from the present. We seek refuge in an introspective world. Memories usually come to us in a whirling fantasy; we absent ourselves from the oppressive actual experience and soar aloft.

With the fading light, if a climber is back to the place of rest or on easy ground where motion is mechanical, we have the stage set for the last movement: meditation. Again, meditation is not surely limited to this period of the climb: it simply occurs at this time almost constantly and with peculiar features. In contemplation, form and color are essential; for meditation we like the subdued light of the sunset, and the smoothing out of the sharp contrast of the full daylight. We want relaxation, and cannot tolerate distraction from trivial necessities. In fact, we seldom talk. We have feared the mountain, we have possessed the mountain, we have admired it, but we are not entirely within the great temple of understanding. We are now expanding at last; the

struggle is now bringing its effects; in the disregard of life, its necessities, its petty competitions, with purification of the body through fatigue, we have freed our mind of its cloak of vulgarity, opened our eyes to beauties beyond color and form. Our ears now understand the voice of nature as well as the silence of space.

So we complete our cycle of sensations.

Climbers are getting more philosophical as a whole; and this movement toward the better kind of climbing is accelerating. Climbers were first explorers, then sportsmen, then artists; now they are becoming philosophers. And so do we change in the span of our alpinistic lives. For whatever reason we begin to climb, seldom do we keep faith to our early ideals.

Unfortunately, thinking often goes along with sinking: just a process of physical maturity and decay. If we could only think more while we can still climb, we would come a step nearer the great secret of the mountains. For the more we understand, the more we appreciate, and appreciation of the beautiful is enjoyment. No matter whether a climb be a success or a failure, the study of the sensations and states of mind experienced through it will be an unending source of thoughts for those less fortunate days when the necessities of life will bar us from the eternal snow.

The First Ascent of "Nettie L" Mountain

HOWARD PALMER

IN spite of the fact that more than forty years have elapsed since the opening of the Canadian Pacific Railway across the Selkirks, the mountains beyond a belt 20 miles south of the railroad are still largely unknown, and of only a few limited areas are adequate maps available. The Battle Range, about this distance south of Glacier House, lies just beyond the limits of the Wheeler map. South of the Battle Range again about 20 miles, one comes to inhabited country, in the region of Trout Lake. This is a beautiful body of water, 18 miles long, half a mile wide, and 765 ft. deep, resting at an elevation of 2400 ft. It occurred to the writer that it would be interesting to visit this part of the range, climb one of the higher summits, and see what the country was like.

Accordingly, August 9, 1915, found him at the hamlet of Arrowhead (elevation 1400 ft.) on upper Arrow Lake. From here, a motor boat plies across the head of the lake eight miles, to Beaton, whence a motor stage takes one on to Trout Lake City, about ten miles distant. In the first three miles from Beaton the road climbs a 21% grade, to a broad saddle (2500 ft.) with a gentle slope on the farther side, extending to the village of Trout Lake, which is situated at the lake shore on the delta of Lardeau Creek. Lardeau Creek flows from a valley to the northeast, and as we neared Trout Lake a prominent mountain could be seen in the distance up this valley. No mountains were named on the Provincial map of that period, but I at once selected this as exactly suited to my purpose. Upon inquiry at Trout Lake, I was delighted to find that a good road led to its base, where the town of Ferguson was situated. After lunching at Trout Lake Hotel, the stage continued thither, and I arrived at 5 P.M., the elevation being 3050 ft.

Ferguson is a mining town which has seen better days. The main street is well laid out, with substantial buildings lining it on both sides, but they were all boarded up, and only a handful of people were still living there. I put up at a neat little hotel, where I obtained the welcome news that a mine was located high up on the mountain in which I was interested and that a wagon road leading directly from the town would take me thither. This would be a

great help, as the mountain sides were heavily timbered and supported the characteristically dense undergrowth of the Selkirks. Upon inquiring for a guide, I was fortunate in procuring one E. W. Garrett, a red-haired youth of pleasing appearance, who agreed to pilot me up to the mine, put me up for the night in the mine buildings, and climb wherever I wished on the following day.

As the weather was settled, I suggested that we make an immediate start; so, after laying in a stock of provisions, we set forth at 6.45 P. M. The road crossed the north branch of Ferguson Creek on a substantial bridge and continued to a hamlet called "Five Mile," where stood an ore concentrator for several mines of the neighborhood. A wire rope conveyor, supported on a line of poles, stretched miles up the valley, and a second one came abruptly down from the slopes of our mountain to the left. There were a hydro-electric power plant and a number of other substantial-looking buildings, all deserted and rusting away.

We turned sharply to our left and commenced the ascent of a well-graded wagon road, which circled around the corner of the mountain to its higher slopes in the valley of Ferguson Creek. We arrived at the upper cabins at 8.30, in the early darkness. The elevation was 5000 ft.

Next morning, August 10, dawned auspiciously, and after a hearty breakfast we got under way at 5.30. A trail helped us through the rhododendron bushes for a quarter of a mile, but then we had to leave it to secure a direct line for our peak. My companion had never been on the higher part of the mountain, and no information about it was available. Further, the valley was so deep that nothing of the summit could be seen, so we were acting entirely in the dark. Within two hours we had attained an elevation of 8000 ft., mainly through dense bushes and scattered stunted timber. Soon after this we came out on the crest of a ridge which led directly to a blunt summit not far away. The ridge was easy, so that we made good progress, arriving on this first peak at 8.30 (elevation 8475 ft.). Here a surprise awaited us. We discovered that the real top was a mile farther on, cut off from us by a wide glacial saddle 775 ft. below our level. This side of our peak broke down in steep cliffs, beneath which an ice-slope, thinly veneered with snow, made the only connection with the pass.

We had only one ice-ax, and no rope, not having anticipated the existence of such alpine conditions. We quickly worked down

the ledges to the final parapet above the snow, whose consistency we had no way of testing. I turned to Garrett and informed him that this was a ticklish bit to negotiate. Taking off my leather belt, I said: "One of us can get down if the other holds this. Do you wish to go first or shall I?" Without hesitation he offered to go; so, taking a firm stand on the lowest rock and a firm grip on the belt, I let him down to his full length. He could just reach the top of the snow-slope with his toes and gingerly trod out a firm step. Then I handed him the ice-ax, which was driven in, and I dropped down to his station.

From this point, held by the belt, I chipped steps down the hard snow, and soon we reached better going where the snow lay thicker on the ice. Garrett had never been on a glacier before, but he acted like a veteran, showing splendid spirit the whole day. When we looked back from the saddle we could scarcely believe that we had traversed such an unpromising route. This was the last difficulty, and two hours from the first peak we stood on the real summit (9100 ft.), at 10.30.

We found no evidence that the peak had ever before been visited, so we erected a small stone man. Although the local men will go almost anywhere for goats or gold, they are exceedingly loth to set foot upon a glacier. The natural approach to our peak was so well guarded by glaciers and by steep cliffs on three sides that it is very unlikely that anyone else has ever penetrated thither. Toward the north and east very steep cliffs descended and the lower portions of the peak displayed long lines of smaller cliff belts. The outlook in every direction was ideal, the weather being clear and warm, without smoke. One could see glacier peaks in the Gold Range west of Arrow Lake and many of the peaks of the higher Selkirks, including South Albert Peak, Bonney, Purity, Sugarloaf, Beaver and Duncan. The Purcell Mountains were well displayed. Mt. Farnam stood out nobly; also the Bugaboo Peaks. In this direction lay the most prominent group of the Trout Lake Mountains, Mt. Templeman (10,000 ft.) being the highest, situated about nine miles away almost due east. Especially prominent was the culminating peak of the Battle Range, since none of the intervening mountains rose to nearly its height. It towered above steep, snowless precipices, but just to the left of these a large glacier descended almost from the summit. A little to the right, but nearer, lay a wide semicircular basin filled with glaciers and constituting the

Mt. Templeman Mt. Wagner

Photo. H. Palmer

VIEW SOUTHEASTERLY FROM SUMMIT OF NETTIE L MTN.
Nameless Snow Peak in Foreground

Photo. H. Palmer

SILVER CUP MTN. FROM NETTIE L MTN.

I found subsequently that a contour map of the region bordering on Trout Lake had been issued by the Geological Survey of Canada, Department of Mines, the title being "Lardeau Map No. 19A." Names and elevations used in the foregoing paper are taken from this map. The elevations on the climb are from aneroid readings by the writer, which, owing to the settled weather, are thought to be reasonably accurate.

General literature dealing with the Trout Lake region is scanty, but among the Government reports there are two very good papers which should be consulted by anyone interested.

"The Lardeau District," by R. W. Brock,[2] describes the mountains as "big, blocky masses, terminating in rugged, narrow serrated ridges whose even skyline is relieved in detail by numerous pinnacles and spires." The rock of "Nettie L" Mountain is slate and phyllite with dykes of diabase schist. The ore is galena, blende, copper and iron pyrites, with some gold. From the mine, 2300 tons of ore were shipped. Triune Mine, on Silver Cup Mountain, lies under the bed of a glacier. The ore is frozen when mined. In winter, snow-slides prevent its operation.

In "The Arrow Lakes and Duncan River," by H. H. B. Abbott,[3] it is stated that the mining excitement in this district was almost a "rush" between the years 1896 and 1901. At this time Trout Lake had a population of nearly 1000 people. The "Nettie L" mine is the largest one in the district and $250,000 was spent upon the concentrator and reducing plant.

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[2] *Annual Report Geological Survey of Canada*, 1903, Vol. XV, Part AA, pp. 42A-81A.

[3] *Annual Report of the Minister of Lands for British Columbia*, 1919, pp. G72-78.

Climbs from the Fay Hut

JOEL E. FISHER

THE recently erected Fay Hut of the Alpine Club of Canada is situated behind the peaks that wall in Moraine Lake, in the Lake Louise district of the Canadian Rockies. Its accessibility as a climbing center attracted Cromwell and myself and decided us to spend a ten days' holiday there last summer. The number of peaks ranged about, many of them comparatively short climbs, make it particularly adapted for the start of a summer's activities.

The hut is reached most easily by the Vermilion Pass road and the lower part of Prospectors Valley. A short two hours by motor from the Chateau at Lake Louise will bring one to Marble Canyon, at the junction of Prospectors Valley with the Vermilion River. Arrangements can be made in advance to have horses ready, and five hours with them should see one at the head of the trail in Prospectors Valley, under the cliffs on which the Fay hut is situated. In times of low water one might perhaps even dispense with horses altogether; but there are three fords of Tokumm Creek, and in mid-July last summer, when the water was not high, it was fully 3 ft. deep at the first two.

Less than an hour after leaving the automobile road, we felt so completely separated from the noise of civilization that we might have imagined ourselves a hundred miles, instead of ten, from the C. P. R. After some four hours, the trail begins to make more and more use of the stream bed, and then it becomes necessary to keep an eye out for a very large boulder, on the northerly side of the stream, a very prominent landmark from the trail. On reaching this boulder, we had been told to continue on until we should cross the next tributary coming in from the north, then to strike up the westerly bank of the latter, over open slopes, whereupon we would soon again meet the trail. An apparent short cut up the near (east) bank of the stream, which we followed, ended in an alder thicket, and should be avoided.

Within an hour from Tokumm Creek, the trail swings to the right and crosses the small stream. Here the ground was steep, and the stream a series of cascades, over great boulders, and all through its bed a tangle of uprooted trees jammed among the rocks.

The fresh character of this débris showed that it was of recent origin. We carefully explored its possibilities and concluded that our horses could go no farther, although beyond the crossing we could see good trail for some distance. Accordingly, the animals were unpacked and sent back to pasture in the valley, while Cromwell and I packed our ample supplies up the hot slopes. Only four days out from New York, this was excellent training.

The trail leads up across open talus slopes to a wall of rock. Two faults have split this, one a little to the right of where the trail touches it, the other a little to the left. We tried the latter. A steep scramble up finely shattered rock, with the help of some small trees, and we were on a pleasant plateau above the cliffs, but with no sign of any hut. Ten minutes higher, a freshly felled tree gave us a clue, and in two minutes more we stood before the comfortable Fay Hut. Subsequent trips showed the right-hand fault up the rock wall to be easier and quicker than the left.

The hut is delightfully situated at about 7000 ft., among larch and other timber, which, unfortunately for those approaching from above, blends all too well with the light green of the roof. A hundred yards off is a stream of clear water. A stock of staple provisions is maintained, but should not be drawn upon except in emergency. There is plenty of firewood, and a supply of kitchen implements, blankets and other necessities—only the beds were designed for very short Swiss guides, so that our feet projected a foot or more over the ends; but a roomy attic enabled us to sleep in comfort on its floor. There is also an excellent sheet-iron stove, but it requires watchfulness, being near the beds and wall, which began to smoke more than once. A sheet of asbestos would be a most valuable acquisition.

The bench on which the hut is situated is cut off from above as well as below by cliff belts. At the extreme easterly end of the upper wall, another fault has opened an absurdly easy passage in what would otherwise be quite a difficult pitch. The route from the Fay Hut to the half-dozen peaks about the Fay Glacier lies up this passage, then over easy slopes, populous with marmots, to the glacier. Here one can either step right onto the ice, or follow the east bank of the glacier to a rocky bastion which splits it into two parts just opposite Mt. Little. Either route is equally simple, but the latter is perhaps the more interesting, disclosing some beautiful calcite veins in the rock. Then, too, the reactions of the glacier to

the pressure exerted upon it, where the rocky bastion splits it in two, are interesting to those who have time to wander about a bit. From the head of this bastion, one gets a clear idea of the three bands of massive black rock, so characteristic of the Lake Louise region, and at the same time the cause of most of its difficulties. This black rock has no bedding planes, is extremely massive, and weathers in almost vertical, smooth cliffs, cut only by equally smooth couloirs. The lowest band is perhaps 300 ft. thick, and the most difficult to surmount. The upper two bands are much thinner, say 50 ft. each. The rock between the black bands is greyish limestone or dolomite, broken by numerous horizontal ledges, and cut vertically by innumerable chimneys. The chief risk is the danger of falling stones on the faces, and this must be guarded against, as most of the climbs are face climbs. Some of the peaks (Nos. 3, 4, 5) have steep scree slopes on at least one face. This scree is exceedingly angular, and for this reason lies at a steeper angle than is usual in the Alps. Conversely, at this steep angle, it is less stable, and an ascent of one of the scree slopes, except at the edge where it is coarse, is quite out of the question. For descending, it is an easy and rapid boulevard.

Arranged in a rising order of difficulty, one might list the peaks as follows: No. 4, No. 3, No. 5, Mt. Little, Mt. Fay. Mt. Quadra and No. 6 could no doubt also be climbed from the Fay Hut, but we did not do so.

Mt. Fay is mostly a snow and ice climb. The others have little snow, except for the easy glacier at their feet, which, however, has a number of crevasses here and there. The views are similar from all the summits, and the stupendous cliff dropping down to the valley of Moraine Lake is everywhere the feature. On this side can be seen the C. P. R., and the automobile road from Lake Louise, with frequent cars winding up. On the other, as far as one can see, no sign of civilization, only the dense alder thickets of Prospectors Valley leading to the wild Misko Pass, and wilder country beyond; and still farther on, Goodsir capped with clouds, the commander of that tremendous wall of peaks leading away to the southern horizon, the Ottertail Range.

Nos. 3, 4, and 5 should take about five hours each from the Fay Hut and back. No. 2 (Mt. Little) took us something over six hours, by a route up the south face. This face has an exceptionally heavy development of the lower black band. In its center, a light folding has created a cracking-up of the rock, which offers,

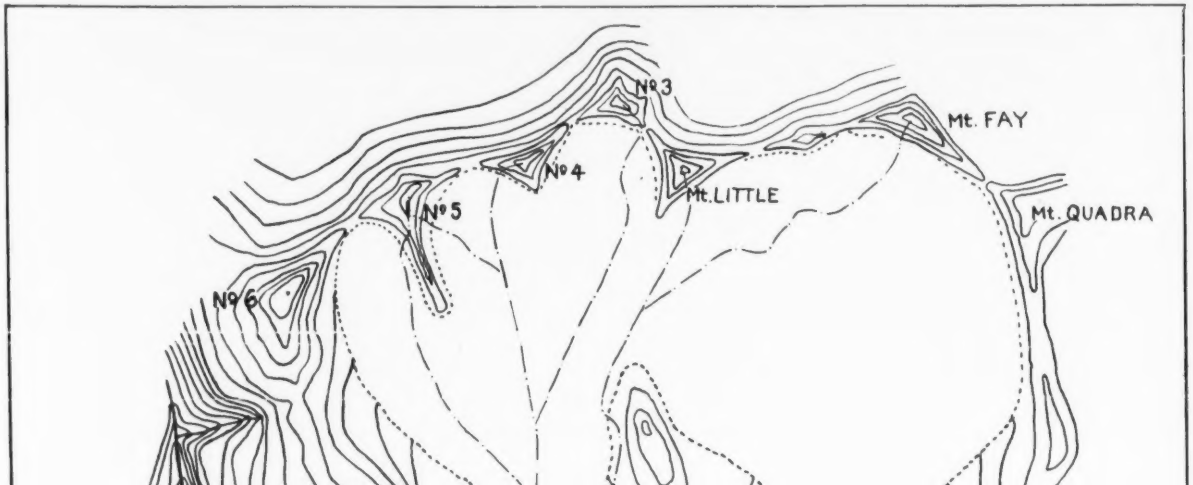
in one place only, small and uninviting footholds, but enough of them to make a crossing possible. From the top of this small fold, one can steer a course almost directly up, to a point just to the left of the summit towers. Thence a rather easy but exposed arête leads to the summit in a few minutes.

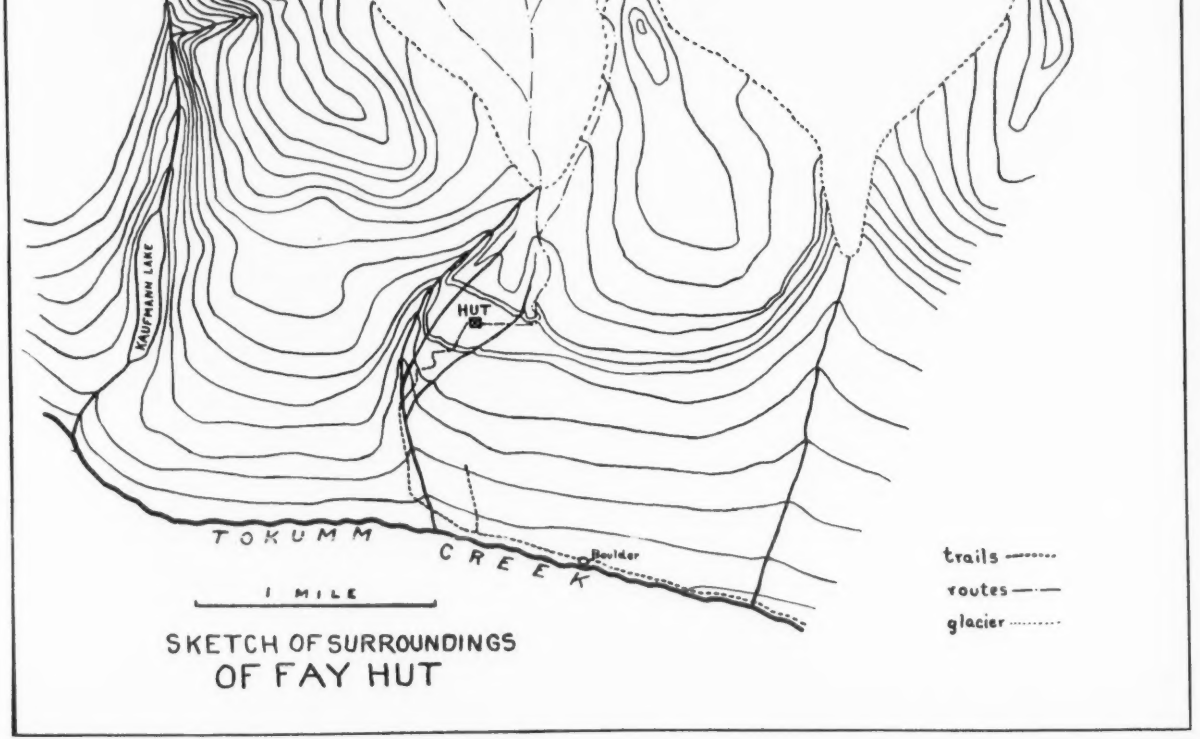
Mt. Fay required some nine hours, including excursions to one side up some pinnacles, for photographic purposes. For Mt. Fay, it is necessary to cross the eastern lobe of the Fay Glacier. This is very hummocky, and in some places the ice actually seems to flow up hill. These hollows are very swampy on the return, and one will do well to follow an even contour around, rather than a straight line through, the depressions. Eventually, following this arm of the glacier, one reaches a cirque, with a well-defined snow couloir leading up to the left of the summit of Mt. Fay. A quite sizeable bergschrund guards the foot of the couloir, and it was only by some very neat work of Cromwell's ax that we reached its upper lip. In the couloir at first it was easy enough to kick steps; then it hardened a bit, and cutting became necessary. Still it steepened, and at the same time the ice became harder. Finally we were driven out to the left, and scrambling over some decidedly rotten rock, we reached snow slopes higher up that led with a minimum of step cutting to the summit arête, and to the top. Here was a curious sight. On one side a perpendicular cliff descends to Consolation Lake. On the other, some 50 ft. of scree lead to a cliff that drops off, less steeply than on the Consolation side, to the Fay Glacier. In the middle of this scree, and parallel to the edge of the cliff, was a trench some 10 ft. deep. Apparently the outer part of the top is giving way, and this trench represented the amount of the settlement. Before long, it will no doubt come away altogether and seek the valley, with a result similar to the so-called "moraine" of Moraine Lake.

The accompanying sketch map is designed to show the immediate surroundings of the Fay Hut in greater detail than does Sheet 15 of the Interprovincial Boundary Commission Atlas, which should be obtained by anyone intending to climb in this region.

Photo. Interprovincial Boundary Survey

PANORAMA OF TEN PEAKS FROM PROSPECTORS PEAK





SKETCH OF SURROUNDINGS
OF FAY HUT

Some New Ascents Near Maligne Lake

W. R. HAINSWORTH

IN 1923 Howard Palmer and Allen Carpe carried out the first extensive climbing campaign in the Maligne Lake district, some twenty miles southeast of Jasper, Alberta. An account published by Palmer[1] in the following year called attention to the attractions of the region. Yet this mountaineers' paradise has quietly awaited new climbers until the summer of 1928, when it was visited by four of us,[2] of whom Max Strumia and I remained to climb.

The principal unclimbed peaks near the Lake were Mt. Charlton, Mt. Sampson, Mt. Warren and The Thumb. With the hope that we might be fortunate enough to visit the final cornice of each of these mountains we started out from Jasper on July 6. The road as far as Maligne Canyon was in perfect condition, but from that point on only a portion of the time was spent in and on the automobile, which, under the determined direction of "Curly" Phillips, carried us to the foot of Medicine Lake. The motor-boat trip up Medicine Lake, situated in the shadow of a striking serrated limestone range and bordered by beautiful woods, was extremely enjoyable. After lunch we walked the remaining nine miles to Maligne Lake, where there is a comfortable châlet; but we were disappointed to find the launch upside-down on the shore receiving its final adornment for the benefit of tourists expected later in the summer. Fortunately a good-sized canoe was in sea-going condition, and with the help of Jack Douglas, an employee at the châlet, an outboard motor was rigged to its pointed stern. As there was some question whether the motor would remain in its proper environment throughout the trip up the lake, we wired it in position and attached a rope to it for obvious reasons.

Mt. Charlton

Mt. Charlton constitutes the easterly peak of the Charlton-Unwin massif, which terminates on the west central side of the lake

[1] "Climbs in the Maligne Lake District, Northern Canadian Rockies," *Alpine Journal*, May, 1924.

[2] Dr. Max Strumia, Dr. J. Monroe Thorington, Julian Hillhouse and myself.

near the narrows. With this objective we started from the châlet in our power canoe on July 7 at 8 A.M. An hour brought us to a little bay beyond the delta at the base of the mountain, in weather that was far from encouraging. We could not see the summits on account of low-hanging clouds and a light drizzling rain. After passing up through half a mile of timber and scrub trees we found ourselves on a very steep lateral moraine on the east side of the Charlton glacier, which centers in the saddle between Mt. Unwin and Mt. Charlton. This glacier is fed by hanging glaciers on Mt. Unwin and a large nêvé and glacier on the upper slopes of Mt. Charlton. From our point of vantage the west side of the glacier now looked somewhat easier, but as it could only be reached by sacrificing considerable altitude, we continued up the moraine—a painstaking task as the rocks and dirt near the glacier had been washed away, leaving a very sharp and hard ridge which gave only precarious support.

The moraine finally delivered us onto smooth ice well above the point where the tongue of the glacier tumbles over a rock ledge, which although passable is hardly practicable. After a brief survey of the visible portion of the glacier, it seemed advisable to cross and follow up the west side on the ice and snow through the gap between a large central buttress and the towering walls of Mt. Unwin. This route was crevassed and showed evidence of considerable avalanche snow from the sides of Mt. Unwin, but would lead directly to the saddle; the only alternative lay to the left of the buttress up very steep snow slopes marked with avalanche paths and with a steep ice traverse just below the northeast side of the buttress—this hardly looked feasible. The cloud level continued to hide the saddle and the summits, making the choice of route difficult.

We roped and continued the climb. Progress was slow until we reached avalanche snow which partially closed the crevasses, at the same time making walking difficult on account of the soft snow between the hard lumps. The source of the avalanches was very evident: above us on the right stood many large séracs ready to tumble over the rocky cliffs. As the day was cold and cloudy we thought it safe to proceed and soon succeeded in passing through the gap to a basin below the col. Through the clouds, far above us on the left, appeared a few bleak rock patches silhouetted against snow and fog; we thought we were looking at the top, but, as usual, later found this point to be far below us. It was a relief to

Photo. M. M. Straznia

MTS. CHARLTON AND UNWIN

Photo. M. M. Straznia

CLIMBING MT. WARREN

Photo. F. A. Jackman

MT. SAMPSON

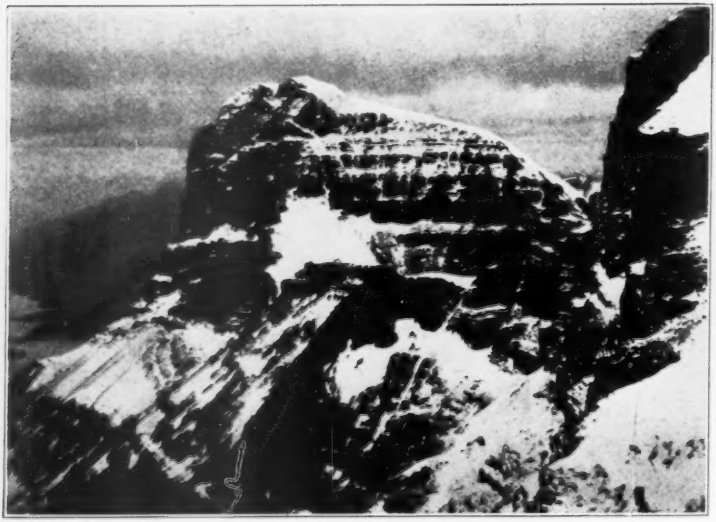


Photo. A. Carpe

MT. WARREN FROM MT. VALAD

walk without the continual necessity of watching for hidden crevasses. However, the respite was of brief duration, as we soon came to a steep slope leading to the saddle, with a half-covered bergschrund at just the steepest point. This proved troublesome, but was finally passed, and another half-hour found us at 10,000 ft. in the col between Mt. Charlton and Mt. Unwin, both of which were still in the clouds. Looking across the route of our ascent and beyond the lake, we welcomed the opportunity to study the face of Mt. Sampson and decide on the best procedure for a forthcoming attack. A short excursion across the col then brought us to the top of the towering cliffs forming the cirque between Rock Tower[3] and Charlton. The walls plunged straight down almost to the shores of a small ice-lake. So completely protected, it seemed as if this little recess must have been chosen by the lake as a special hiding place from inquisitive eyes. Fortunately the clouds were lifting, and after taking readings with a small Abney level and ascertaining the bearings of several of the main peaks and ridges, we turned to the northeast and continued up the easy slope to the summit, arriving at 2.30 P. M. A moderate snowstorm followed us and prevented observations from the top. As the entire ridge was corniced, a cairn was built a little below the summit and our names deposited there in an aluminum tube. Black storm clouds on the summit of Mt. Unwin contrasted vividly with the brilliant sunshine on the lower glacier slopes, but we were not destined to linger, as the uncertainty of the weather necessitated a speedy retreat.

The return followed essentially the same route as the ascent. We found, however, that the west side of the glacier and the stream bed offered a more convenient route than the sharp eastern moraine. As pre-arranged, Jack Douglas met us at the delta with the canoe and we returned to the châlet in short order.

Mt. Sampson

Mt. Sampson rises sharply from the north side of the lake opposite Mt. Unwin and Mt. Charlton. After a day of rest at the châlet, a position at its base (about a mile and a half west of the summit) was attained by motor canoe, at 8.30 on the morning of July 9. Imagine the luxury of starting a first ascent at 8.30 after

[3] Probably identical with the Mt. Mary Vaux of Mary T. S. Schaeffer.—[Ed.]

an exhilarating ride through a scenic wonderland in a motor boat! We started up via a convenient talus slope covered with flowers and small shrubs. Unlike Mt. Charlton, there was no preliminary timber and practically no snow. Passing to the left over the ledge at the top of the first talus slope, we crossed another, then, turning to the right, a rocky ridge led us to a third scree patch. Here the angle of the slope increased, and we soon found ourselves on rock ledges which afforded convenient paths toward the summit, ascending at about 15° diagonally across a face having an angle of about 45°. In some places the ledges were only a few inches wide with loose rocks under foot, in others a foot or more in width. After an hour of this, the strategy of Sampson's defence became apparent, for we were being led directly toward huge limestone slabs which afforded no holds and which were oriented at a very convenient sliding angle. We therefore decided to try for the ridge. This arête follows an easterly course to the summit. Falling rocks and icicles were annoying in the couloir leading to the ridge, but it was finally attained, only to find that it was impracticable on account of the nearly vertical wall on the opposite side and the many gendarmes along the crest. A traverse was necessary, requiring considerable care, but offering no serious difficulties. For some time only one of us moved at a time, until we arrived at a slope leading directly to the ridge near the summit. This was easily ascended. We were on top (10,000 ft.) at 1.50 P. M. after 5½ hours of climbing, with excellent weather, although the temperature was considerably below freezing. Lunch, movies, observations and just looking around occupied the next hour and ten minutes. In its isolated position Mt. Sampson commands a wonderful panorama of unnamed snow peaks between 10,000 and 10,500 ft., breaking the eastern horizon, and the main range of the Rockies sweeping away in all its glory to the northwest and the south. We could easily identify Mts. Fryatt, Scott, Hooker, Clemenceau, Edith Cavell, the Columbia Icefield, etc.

On the return it was decided to parallel the ridge a little lower than on the ascent. This proved to be somewhat easier, but the route was more exposed to falling rocks and small icicles. The latter part of the descent was accelerated by the sight of a tiny white streak far down the lake. The motor boat won the race to the base of the mountain but not entirely to our displeasure. The descent required just 3 hours and 15 minutes.

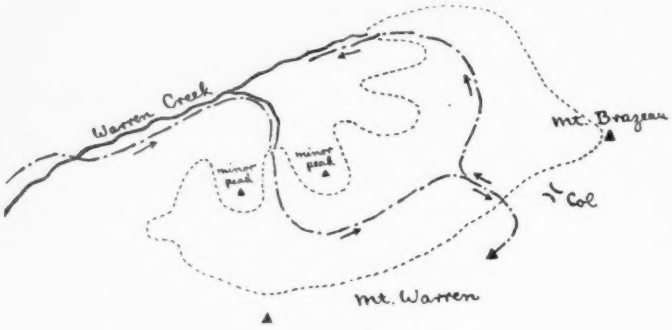
Mt. Warren

From Maligne Lake Châlet the formidable walls of Mt. Warren appear as a complete barrier to the country beyond the lake, the massive double peak completely hiding the glistening slopes of its southerly neighbor, Mt. Brazeau. Though lacking the graceful contour of many of the surrounding mountains, it could not help but command our admiration and respect. To find a route to its summit proved to be one of our most interesting problems.

July 10 was occupied in transferring our camp to the upper end of the lake: 14 miles of most enjoyable mountain scenery, always made more interesting by picking out tentative routes to the various summits. Camp was established on a gravel bar at the southeast end of the lake, with Mt. Thumb just north and Mt. Warren south of us across the stream. The same evening a short scouting trip was indulged in to study the possibility of ascending the massive continuous buttress of Mt. Warren by a steep couloir a short distance from camp. A narrowing curve just below the crest of the buttress, hiding completely the upper part of the course, deterred us. Our decision not to try this approach was strengthened when we observed that the drainage from the glacier above did not see fit to follow the couloir from the top, but preferred to enter it from the side via several clefts and long drops, thus indicating some unusual condition at the head. Further reconnaissance up the stream revealed a continuation of the buttress and left no choice but to follow the valley until a suitable approach to the glaciers above the buttress was discovered.

July 11 at 6 A.M. found us on our way: a beautiful day with high cumulus clouds ideal for photography. Not wishing to spend more time on reconnaissance, we traveled up stream for two hours until we came to a point where the stream forked. The right-hand course, in which the volume was only slightly less than the main stream, appeared to be the more direct route to the mountain. A rocky canyon delayed progress, but we eventually emerged on the moraine below a glacier at a level with the top of the buttress. A series of minor peaks paralleling the buttress now separated us from the main summits of Mt. Warren. The ice immediately in front of us was one of five arms which break through from a practically continuous icefield fed by the snows of Mt. Warren and Mt. Brazeau. After some step cutting in the lower ice-fall we found ourselves in the basin beyond the low peaks and confronted with

a steep wall scarred with avalanche paths. To the right the foreboding sound of falling stones on a rock wall and to the left a real ice-fall with large séracs in the center made our position interesting, to say the least. The day was hot and traffic in the avalanche paths was heavy, so we chose the ice-fall. The preliminary slope out of the basin was easy, but after cutting up a ledge necessitating hand-holds in the ice, we found that we had been led directly into a trap. Working to the right, Max found too much soft snow in the gaps between the séracs—to the left, we straddled a narrow ice-ridge to another depression, only to find it also closed in. A small crack in the ice above a ledge on a nearly perpendicular wall offered hand-holds, and we finally reached a rounded terrace between large crevasses leading to the main névé.



The wall of the final summit still confronted us and it was necessary to cross the snowfield for about a mile to a point below the col between Mt. Brazeau and Mt. Warren. The bergschrund was easily passed and we were entertained for the next half-hour watching miniature avalanches of snow start from our footsteps as we worked up to the ridge. Once on this, it was necessary to cut steps in the ice below the snow, and progress was slow. The writer tried a zig-zag course, but a better solution was found when Max cut steps straight up the crest—several hundred in all. The arête finally flattened into the summit ridge and it was necessary to take levels to determine which was the highest knoll. Of course it was not the one we were on, so we continued a quarter-mile to the north. Here, about ten hours after leaving camp, we found a con-

Photo. M. M. Strumia

MT. BRAZEAU FROM SLOPES OF MT. WARREN

venient rock ledge on which to build a cairn and to shelter us while we made the customary level and compass observations.

The summit commanded a magnificent sweep of mountains, and our sojourn was extremely pleasant, the anticipation of a descent along an icy ridge adding to the feeling that we were standing on the top of a mountain of the first class. Immediately south of us, with its dome-like summit seemingly less than a mile away, Mt. Brazeau presented a truly magnificent spectacle: a steep face covered entirely by glacier with hardly a trace of rock exposed, rising majestically from the yawning chasm in front of us. Beyond, the now familiar but never tiring expanse of the Rockies again greeted us. On the descent we were pleasantly surprised to find that the snow had hardened a little in the short time that the sun had retreated from its daily attack, and it was not at all difficult to move, one at a time, down the steps, facing the slope. Rather than retrace our steps over the long névé and through the maze of séracs we decided to try a direct descent and fortunately found an easier route leading to the lower icefield. Here it was a simple matter to follow the longest of the glacier tongues down to the terminal moraine. The long grind back to camp finally terminated at 10 P.M., just 16 hours after the departure. It was then obvious that the approach to the mountain would have been greatly simplified had we followed the left fork of the stream; this would have brought us onto the glacier at a point from which we might have crossed directly to the base of the col between Mt. Brazeau and Mt. Warren.

The Thumb and Neighboring Peaks

The ascent of The Thumb on the following day proved interesting, but not at all difficult. After the previous day's exertions it seemed fitting that we should be rewarded by luxuriously reclining on the rocks in front of the camp fire long after the scheduled departing time. But eventually inaction palled, and at 11 A.M. we started for a pronounced couloir about a quarter of a mile up stream from the camp, which appeared to be the simplest and most practical approach to The Thumb. After a short stretch of trees we found ourselves steadily climbing the shale core of the couloir, stopping to take pictures of a beautiful little fall which dashes over the lip of one of the upper basins. The upper rim of the last basin was guarded by a continuous vertical wall of snow about 10 ft. high having some cornice characteristics. A detour to the left up snow

fingers and icy rock ledges brought us to the final ridge. Sharp, shaly slabs along the ridge, a steep but firm snow slope and a practically level walk past a peculiarly shaped gendarme finally led us to the summit. On all sides except that of our approach the walls were nearly perpendicular. The shore of Maligne Lake, 4,000 ft. below, is at an angle of just 45° from the summit. The view of the surrounding mountains is somewhat limited by the low elevation, but this is more than compensated by the closer detail of spectacular cliffs and the beautiful expanse of Maligne Lake. After taking the usual observations and building a cairn, we hastened back to the falls and at 7 P.M. were again in camp discussing plans for the following day.

From the summits of The Thumb and Mt. Warren a number of peaks about 10,000 ft. high, just north of The Thumb, appeared to offer attractive climbing possibilities. These peaks form a range running roughly east and west, terminating in a prominent peak northeast of The Thumb, which is visible from the bridge at the lower end of the lake. This and another peak just back of it formed our objective for Friday, July 13. From Mt. Warren it seemed that these mountains could be easily reached by following a branch of Warren Creek in a northerly direction to the region back of The Thumb. Leaving camp at 10 A.M. we followed the stream along game trails through beautiful, moss-blanketed forests at the foot of towering cliffs which are sprayed by numerous falls from the upper snowfields. After several hours, to our right and ahead of us, the tongue of a glacier appeared, warning us to reach the top of the cliffs as soon as possible. A steep draw served the purpose and rewarded us with the sight of a band of 23 goats, but they seemed indisposed to be photographed. The peak ahead did not look familiar, so we continued our climb to the left (west) and ascended a ridge, only to find that our peaks were far away on the other side of a sizeable snowfield. It was now 4 P.M. and obviously too late for both of us to climb both peaks, so we separated after crossing the snow and Max ascended the mountain nearest Maligne Lake, the writer taking the adjoining peak. The climbs were not difficult, although the loose rock was extremely exasperating. The summits were just within hailing distance. We named the peak near the lake Mt. Florence for Mrs. Strumia, and the other peak Mt. Hawley for Mrs. Hainsworth. On the return an injudicious short cut across the snowfield brought us out on a buttress which we

could not descend. It was necessary to ascend and return by the original route, our arrival at camp being thereby delayed until 9 P.M., just eleven hours after the start.

That night and the following day it rained hard, and we were quite ready to start for home when Jack Douglas arrived with the motor boat a little ahead of schedule.

Locations at Maligne Lake

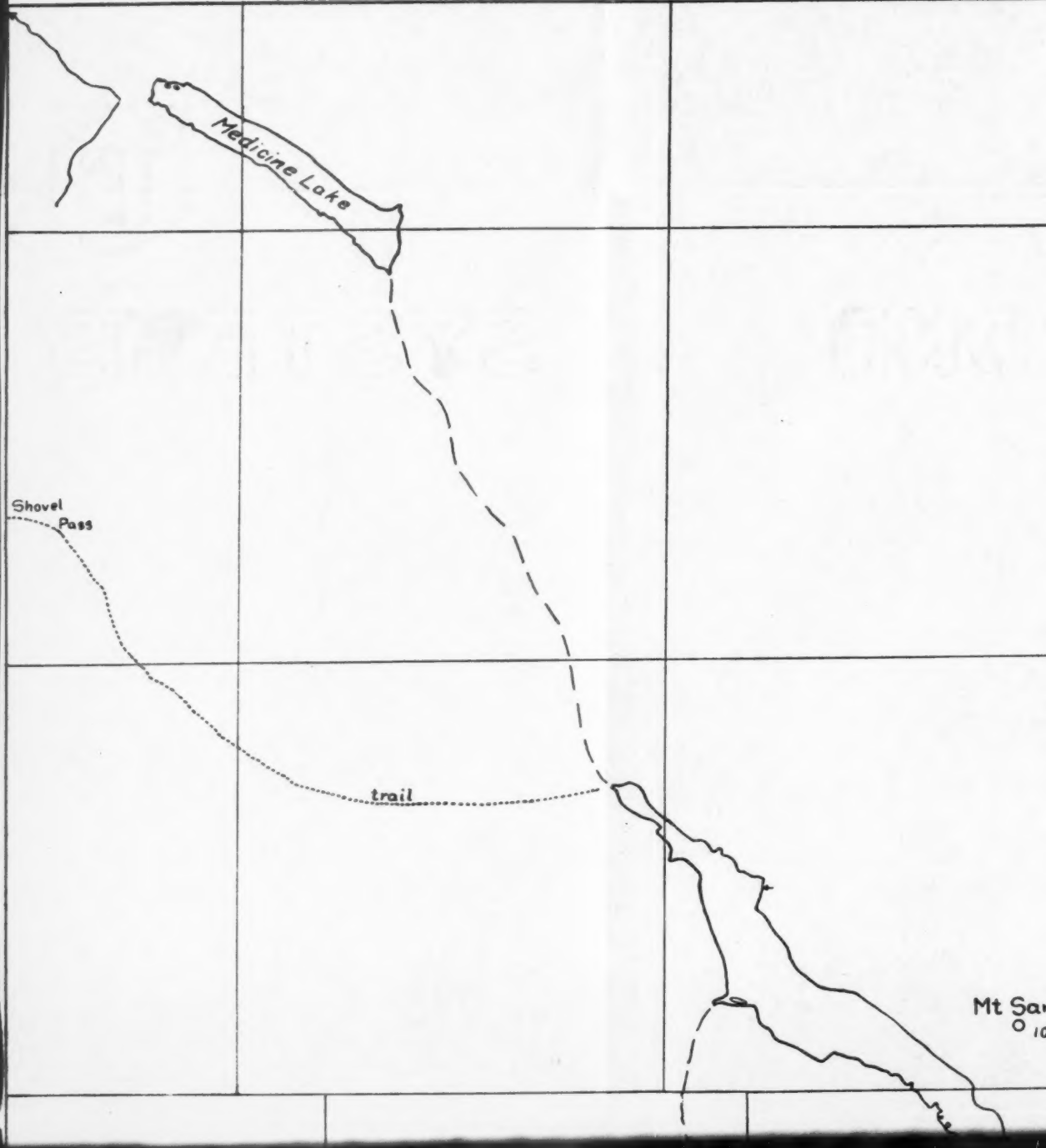
ALLEN CARPE

WHEN Howard Palmer and I visited Maligne Lake in 1923, we encountered topographical inconsistencies which had not been anticipated. Looking into the matter after our return, we were surprised to find that the lake had never been surveyed, and that existing maps were based on nothing more substantial than sketches by early travelers and estimates of distances by trail. The difficulties were eventually resolved by the discovery of an error of nearly 10 miles in the location of the lake, correction of which allowed Mt. Brazeau and the Brazeau Icefield to assume their proper positions relative to the head of Maligne Lake.

An accurate location of the mountain peaks about the lake, and from this of the shore-line of the latter, was undertaken on our return. It was found that the mountains are visible on photographs taken by the Bridgland survey of Jasper National Park in 1915. Although distant from 30 to 50 miles, the images were clear and gave good intersections. Photographs by the Interprovincial Boundary Survey from points about the Columbia Icefield, and views from the same vicinity kindly loaned by Dr. J. M. Thorington, although also distant, came in almost at right angles. At least six rays were obtained on each of the principal summits (Sampson, Unwin, Warren, Brazeau) and fix these points with an error which is probably to be reckoned in hundreds of feet.

Views from Mt. Henry MacLeod and other summits showed Maligne Lake and enabled it to be put in with reference to the known points. The detail provided by these views was, however, insufficient to determine the exact shore-line or to fix accurately the distant (lower) end of the lake.

On inquiry, Mr. A. O. Wheeler very kindly placed at my disposal prints of survey photographs taken by him in 1911 from stations about the lake. These covered much of the shore-line in detail; but there was some ambiguity in working from them because neither the locations of the stations nor the scale of the prints (enlargements) was known, while low clouds hid possible reference points in the landscape. The shore-lines were taken out from the


Medicine Lake
Shovel
Pass
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MAP

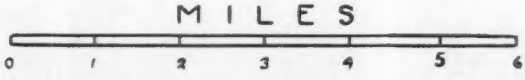
OF

MALIGNE LAKE

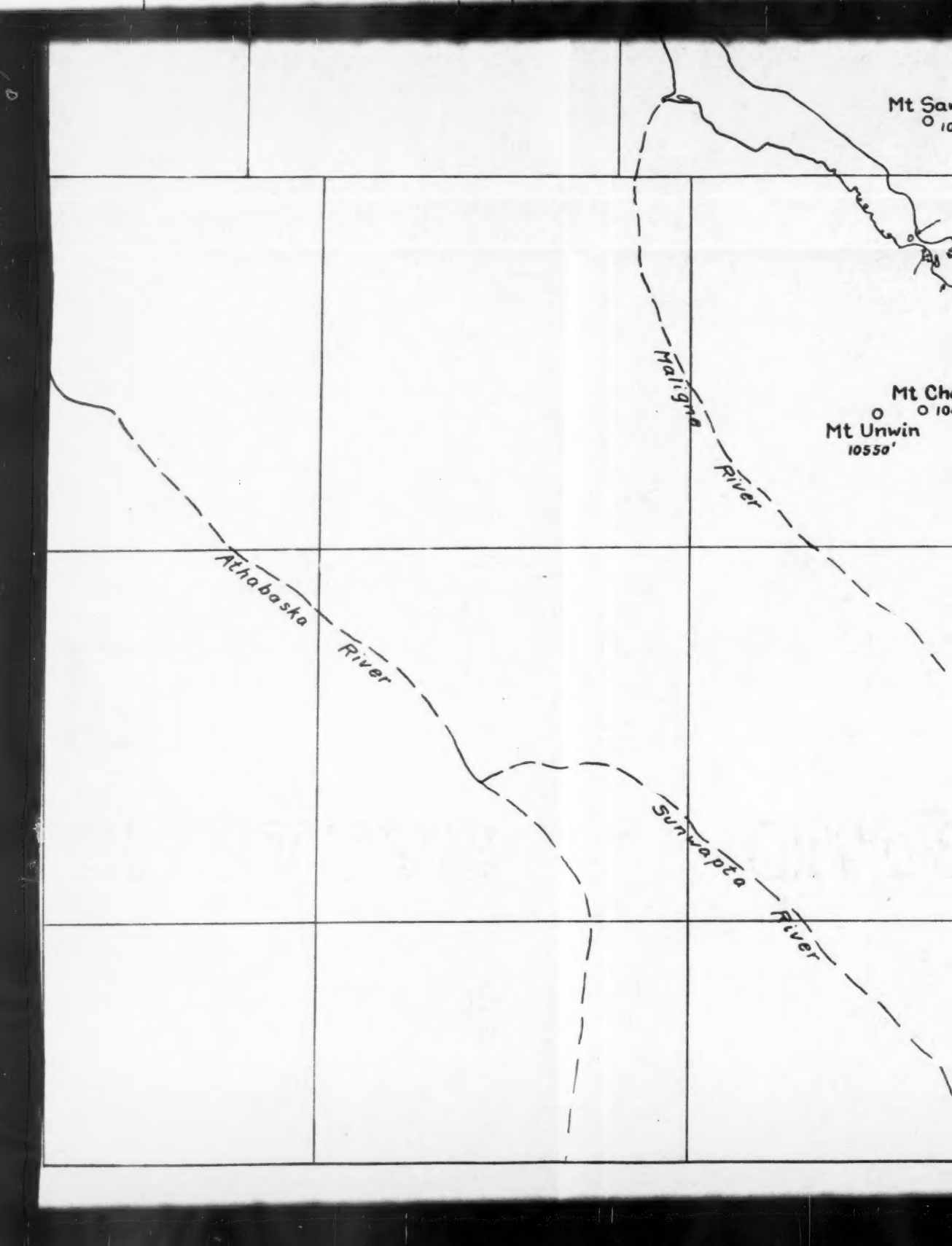
AND

ADJACENT MOUNTAINS

Allen Carpe 1924



Sampson
O 10000'


Mt Sa
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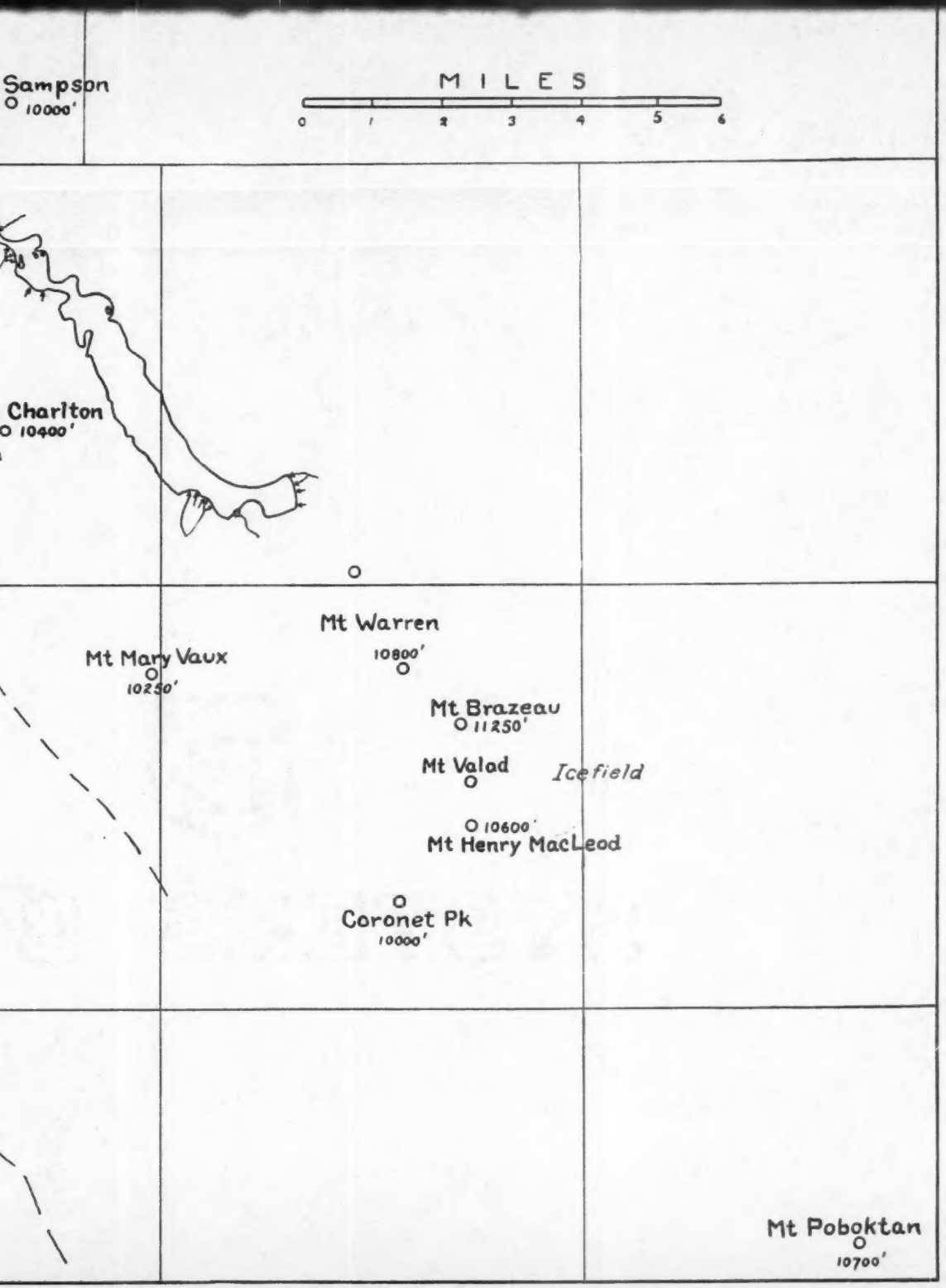
Athabaska River
Sunwapta River


Sampson
10000'
MILES
0 1 2 3 4 5 6
Charlton
10400'
Mt Warren
10800'
Mt Mary Vaux
10250'
Mt Brazeau
11250'
Mt Valad
Icefield
10600'
Mt Henry MacLeod
Coronet Pk
10000'
Mt Poboktan
10700'

individual views and fitted together by photographic enlargement or reduction; fortunately there was much overlapping. The result is thought to be accurate to a small fraction of a mile at the upper end of the lake, with a somewhat greater error at the outlet.

Altitudes are related to Mt. Sampson, which was taken as 10,000 ft. They were obtained from the photographs, and from levels and barometer readings. Secondary or distant summits, as Coronet Pk. and Mt. Poboktan, are less well located than those mentioned above; the Rock Tower (Mt. Mary Vaux?) has a long ridge of nearly uniform height, the true summit of which is uncertain. No attempt has been made to locate stream courses. The map has been drawn on a township grid, scale uniform with the 1:125000 Bridgland map of Jasper Park, to fix the relation of the Maligne Lake region to the adjacent mapped areas.

Climbs and Camps in the Whirlpool Mountains

JULIAN G. HILLHOUSE AND J. MONROE THORINGTON

Serafin aveva un sifulo,
Sifulava tanto bene,
Che quand'era nivolo,
Faceva rasserenir!

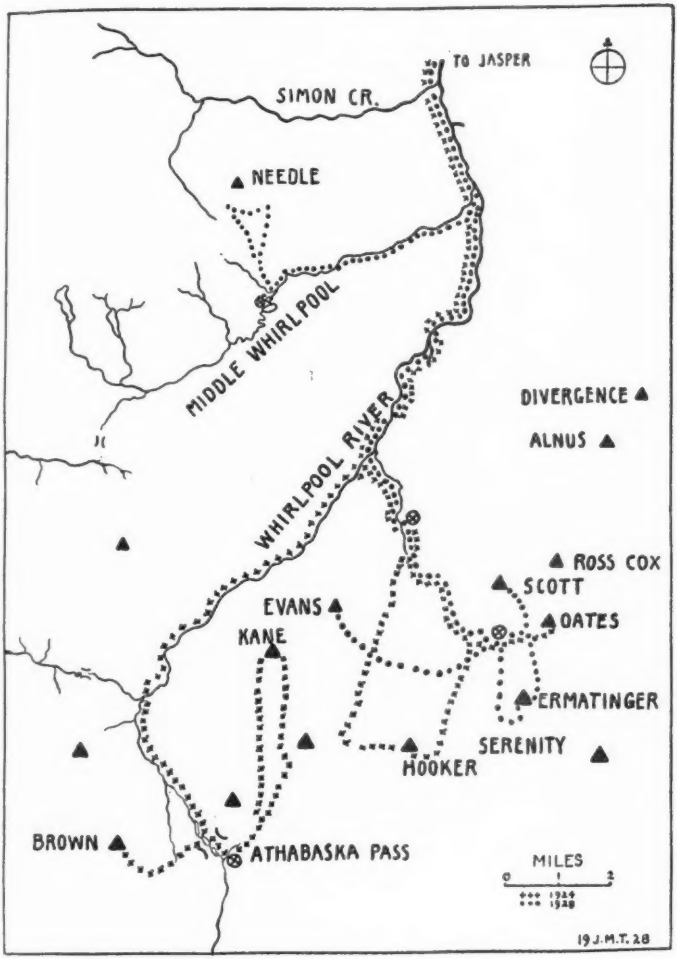
FAR on the Upper Athabaska, a spell has been cast—if one have faith it will never again rain for long. For, crouched by a rock at midnight, at the edge of an icefall, eerie figures in the mist, we have shouted the Song of Seraphin and made the stars come out:

Seraphin once had a piccolo.
He could play it so divinely,
That when the sky was covered up,
He would make sunshine again.

We are on the Athabaska trail again after four years,[1] camping on a bluff beside the rushing Whirlpool. Nearby is a tree with our old blaze, now half hidden by pitch. Pungent wood-smoke from the crackling fire wafts over us, smudging the mosquitoes dancing above the rainpools. It is evening, a day out from Jasper, and we are sitting at the river's bank, sketching the outlines of Needle Peak, while rose and purple shadows deepen and lift toward the golden light flooding its crest.

Early next afternoon we came to Simon Creek. The "North Whirlpool," a boiling milky torrent, swept down logs and branches, with dull rumbling of displaced rocks in its bed. We unloaded the horses at a point where the stream was partially bridged by a log extending to a rocky isle. With cat-like balance we chipped steps in the bark, and strengthened the log with a handrail of brush and braced it with packropes. All our baggage, nearly

[1] See "The Mountains of the Whirlpool," *A. J.* XXXVI, p. 299. The 1928 party, guideless, consisted of Mr. William R. Hainsworth, Mr. Julian G. Hillhouse, Dr. Max Strumia, and Dr. J. Monroe Thorington. David Moberly was again in charge of the horses. We left Jasper with the outfit on June 26, some three hours after arrival by train, and reached Scott glacier on the evening of the following day. The high camp was established in Hooker basin on June 28 and the S. peak of Mt. Scott ascended. A complete summary of the ascents will be found in *A. J.* XL, p. 382.



ROUTE MAP OF THE WHIRLPOOL MOUNTAINS

two tons of it—food, tents, saddles—was relayed over on human backs. Then the horses were gathered on a bit of sandy beach and driven, with stones and shouting, into the water. We watched them not without misgiving, for a fall would have dragged down one or more, to catch and drown in the sweepers and tangled logs below. But, starting in a compact group, their mutual pressure and momentum supported them and, although the water broke and sprayed above their backs, they came through.

Soon the Middle Whirlpool was crossed, a friendly stream with three clear and sparkling branches, bordered with tiny orchids, dwarfed in the dense stand of timber.

Far up on the Whirlpool we turned our tired horses at last to the flat that spreads below the Scott icefall. Three goat stood spectre-white against a bit of wooded moraine and climbed deliberately along a band of cliff. The glacier, fluorescent and glowing in evening green, a gigantic cascade closing the side valleys, sends wave upon wave of ice five thousand feet down from the twisted strata of Mt. Hooker. We pitched came in the twilight of a long day.

In the morning, with loaded packs, we followed our route of 1924, traversed a mile of glacier tongue,[2] then ascending the eastern lateral moraine for several hundred feet, climbing through a corridor of winter snow below Mt. Scott to reach the lower ice plateau. This is the reconsolidation basin for the circle of icefalls which pour in from the névé and lateral alcoves of the Hooker icefield, a stage with tier upon tier of séracs—a ruined coliseum of ice.

We roped and for more than an hour cut a circuitous way, balancing our heavy loads, through the eastern labyrinth of pinnacle and chasm, a route strictly delineated by obvious boundaries of avalanche lines. The ascent brought us under the northern wall of Mt. Ermatinger to an upper snowfield; we crossed to a ridge of moraine below Mt. Scott which serves as a natural jump for spring slides. The rocks are backed by a tumble of snow-blocks and débris; on the southern exposure the shale is dry.

Our bivouac was built against a rectangular boulder, to which we stretched a slanted wall of two light tents, weighting their outer

[2] The glacier has not retreated perceptibly in four years. The ice terminates some 550 paces behind the enormous boulder standing toward the eastern side of the gravel plain, much as it was in 1924. Comparative photos of the lower fall show increasing exposure of rock in a hot-plate band, through thinning of the ice in the eastern third.

fan with stones. We dug a drainage channel without, and, within, leveled a platform for sleeping-bags. On the far side of "Hotel Hooker" one circle of stones protected our provisions while another sheltered the alcohol burner. A gentle slope of angular stones led to the nearby snow, where, in a little hollow, the tiniest of frozen lakelets served as our water supply.

The cliffs of Mt. Scott loomed behind us. Shortly after noon we were off, climbing through a snowy corridor that leads past a black cliff with threads of silvery waterfall to a higher plateau between our objective mountain and Mt. Oates. The weather was changing, and sweeps of fast-moving cloud rose behind Mt. Serenity and threw trailing streams across Mt. Ermatinger. We turned up the scree slopes of Mt. Scott, shifting shale that cracked and clinked beneath our nails like breaking china-ware.

Unroped, we separated on the face, selecting our own routes. Masses of low cloud swung in from the direction of Fortress Lake into the valleys of the Alnus glaciers. We climbed higher, until Alberta and Columbia rose distantly above Mt. Oates. The mist closed in with flurries of snow. A traverse of a short snow-slope brought us to the higher portions of the southeastern ridge, shouting to each other for direction. We met on a rising cap of névé. There was precipice beyond, with jagged descending ridges, and spiked pinnacles that tore the driving fog. It seemed to be the summit of Mt. Scott. There was no time to be lost; we placed a record in a small cairn and raced to lower levels.

The next day, June 30, was fair. We crawled from our sleeping-bags at an early hour, to find the sunlight glowing on Mt. Hooker and throwing a brilliant pattern through the thin clouds that billowed on the rim of the ice-basin. We walked out on the crusted snow, roped, and started for Mt. Ermatinger. The plain spread from our bivouac toward a colossal gendarme, springing like a huge black tooth from the hollow of the basin. Foreshortened as we approached, this monstrous spike, with smooth and polished sides, seemed nothing subordinate to the mass of ridge it terminated. We looked up, as if from below the prow of some great ship.

Bending our steps a little to avoid crevasses, we passed the cliff, into the shining basin between the prongs of Ermatinger and the templed mass of Hooker. It was a vision to draw an advance guard to its feet. Flat white flanks and sweeping skirts of snow slipped to the basin from the narrow draws and couloirs up aloft. A broken

line of coping followed the skyline of Ermatinger with persistency and warned that ours must be a back-door policy.

Over the snowfield, through levels of rising mist, we came to a narrow neck of splintered rock, above a cliff that dropped to the southern Alnus glacier, lined with the approaches to Mt. Serenity, whose arc-like bands of black rock, in nearly vertical position between bands of snow, swept the whole face in a series of astounding curves. We gazed down the long flow of the glacier to the forested slopes near the outlet of Fortress Lake. A sharp breeze flipped our faces and we were glad to turn to the shelter of warm rock. A long, narrow chimney gave full play to the rope; there were tight squeezes and a little overhang in the middle. With the loose masonry rattling down we landed like flapping fish on the upper level.

We doubled back to parallel our tracks on the snowfield far below and walked along the rising shoulder in a half-circle to the summit. The rope was no longer required; we were free to walk carelessly and to revel in the splendid panorama. Mt. Hooker, with its northern face in profile, lifted a soaring snowy peak, behind which, and a little to the southwest, a flat bank of lighted fog was pierced by the precipice of Bras Croche and other summits beyond Wood River. Sitting on the stones from which jutted the curled cornice of Ermatinger we looked across at Mt. Scott, and saw that the clouds had deceived us—that we had reached the southern point and that the slightly higher northern summit lay beyond. But the day preceding was not one on which to be caught out on a high mountain and we had done everything possible under the circumstances.

Soon we were glissading down into the broad basin between Ermatinger, Oates and Scott and were back at camp. The afternoon was fiercely hot; most of our clothing was put out to dry, and we sat by the edge of the snow, in more or less nakedness, enjoying life to the full. The sun went down in a blaze of color, with clouds quickly covering the sky.

June 29 opened with a melancholy drizzle which soon stopped. Strumia and Hainsworth found energy enough to start for Mt. Scott, and were favored by a short break in the weather about noon which lasted long enough to allow the now obvious passage of the arête from the south peak to the highest point. They were back early in the afternoon, having seen little except their route.

Mt. Evans was the setting for our next ascent. It had towered above our base camp with an aggressive tilted thrust, cut along its entire flank by a narrow slanting line of snow in the stratification. On the morning of July 1 we arose shortly after midnight, taking down the tents by lantern light. Wind blew from the south and there was a spatter of rain. A glimmering transparency of ice was visible amid the shadows. Someone brewed chocolate as the loads were packed. From far below came the hollow roar of an avalanche among the séracs, scattering the quiet and sending a thousand clapping echoes along the skyline. We consumed the remaining provisions, as one is apt to do when wondering about the weather. In the half-light, as we stood by the rock, a voice, almost smothered by bread-crumbs, was raised in throaty song. It was the "Song of Seraphin," verse from the pre-Alps of Lombardy, that had many a time before cleared the skies. We shouted the chorus until the crags resounded:

Ohi Serafin sa fé zu li?
So mi si fo, sifulo!
Ohi Serafin, ohi Serafin,
Ohi Serafin, sifula bin!

Believe it or not, there showed a patch of light behind Mt. Hooker and a pale moon looked out in moist surprise through the scudding clouds. A star—one, then two—peeped faintly through the thinning mist.

The rope was put on at once. We struck across the glacier above the icefalls in the eastern basin and deposited our bulky dunnage. Straight ahead we rose to the higher level, that which holds the Hooker icefield proper, and, veering always to the right, kept along the rim of the cascade. Down the glacier we could see the mirrors of the little lakes at the base camp, and, beyond the Whirlpool valley, the spire of Needle Peak and the distant Fraser group, just touched by morning. Wreaths of mist arranged themselves into level bands that hung above the gulf down which the glacial tongue has wormed its way. These caught fire in the descending sea of light and trailed from the cliffs like blood-stained belts. Green shadows, over the lower reaches of the ice, mingled with wavering lines of blue. Northward the clouds began to lift: puffed, dark, of lowering aspect, clinging to the higher summits, with patches of turquoise sky between. Quite suddenly, it seemed, the rays of the sun swept through the Whirlpool valley. Across

the northern buttresses of Scott towered the battered shape of Mt. Fryatt, edge-on, with astounding upthrust.

We arrived at the southeastern arête of Evans, and the ascent began in earnest. It was a long pull up the shale, and along occasional outcrops of rock where structural veins broke through. We held to the edge of the ridge, as if climbing a staircase from which the balustrade had been plucked. There was ample opportunity for gazing down on the glacier, its flat snout more than five thousand feet below. As we neared our summit, the northern snowy face of Mt. Kane, seen across an intervening ridge, sheerly above the Whirlpool, was dazzling in the brilliant sunlight. Through a little notch we could see McGillivray's Rock and the woods on the western slope of Athabaska Pass.

A curious little horn of rock near the top of Mt. Evans caused some consternation because of its resemblance to a cairn, but it had not been built by human hands, and soon our own adorned the highest point. Our shadows, in curious fashion, were thrown out on a cornice as we stood there looking at an astonishing panorama. Sections were intermittently visible from Columbia to Robson; the swinging clouds now hiding, then revealing group after group in incredible color and radiance. It was a triumphant morning.

In descending, a slight variant of route took us to snow, and we glissaded the immense white slopes to the basin. By this time Hooker, Serenity and Ermatinger were islands in a serene sea of cloud in which we were soon immersed. There was no difficulty in retracing our tracks to the baggage pile, then down through the icefall, where airy bridges that served for the day would be gone on the morrow. Base camp was reached shortly after noon.

On July 2 the outfit moved to the picturesque lake in the higher reaches of the Middle Whirlpool. Trail rises with inconsiderate steepness through a rocky, forested glen, with a turbulent cascading stream ever at hand. Trout were rising at the lake when we made camp, and enough were taken to fill the pans to overflowing.

A reconnaissance of a mountain is comprised in those events during which one wrenches a way through alders and pine-forest, toils over moraine to the base of a new peak, looks up and remarks, "This is too much for today," smokes a pipe, and returns with the rope still neatly coiled. So it was with our visit to Needle Peak.

From Needle E. Station it is quite cut off by an abyss and a hanging glacier. Cliffs rise at high angle from the depths of Simon Creek.

We skirted the slopes and rounded to Needle S. Station. Here one is closer to the mountain, but it is quite forbidding. A saw-edge of rock-needles does not invite a traverse along the main ridge to the summit. Neither do the stone-swept slopes and the encircling band of smoothest limestone impel one to a direct assault from below the peak.

So the pipes were brought out and we sat down to look into the upper stretches of Simon Creek, with its wheel of ice-tongues, and the showy peaks of Fraser and Erebus. In the late afternoon we wandered down the alpland, with a view over a low ridge to the Whirlpool peaks and Athabaska Pass; one could see right through this gateway to the Columbia, the "Height of Land" of the fur-trade days. On piles of angular morainal boulders marmots sunned themselves and pikas were squeaking; there were pools beside melting snow where avalanche lilies stood in little regiments and giant anemones forced their way up like a crop of bayonets. There is something to be said for a reconnaissance.

We brought the horses to the main Whirlpool. Continued high water made a crossing to Divergence Creek unthinkable without the building of a craft. We had much to do in other places. Through the last night clouds gathered and a drizzling rain increased to steady downpour. Smoke from our campfire filled the tents and spread in a hazy layer beneath the dripping jackpines. In the grey morning we packed sodden loads on bedraggled horses and slogged through thirty miles of trail to Jasper.

The Song of Seraphin could help us no longer—its miracle had been for the heights.

Ascents in the Purcell Range

EATON CROMWELL and J. MONROE THORINGTON

WHEN David Thompson, geographer of the North-West Company, crossed the Rocky Mountains by Howse Pass, and reached Lake Windermere in the summer of 1807, the news of Trafalgar had but just arrived, and he named a conspicuous peak to the westward, Mt. Nelson. Thus it came about that the name of a British admiral was given to a mountain at the headwaters of the Columbia, before the sources of this river were discovered. On his famous map (1813-14), all of the area within the Columbia Loop, which modern geographic method divides into the Selkirk and Purcell Ranges, was known as Nelson's Mountains.

We had planned for some five years to climb together in Canada, and for an equal time the hope remained unfulfilled. We eventually met in Golden, B. C., on July 10, 1928, with the prospect of two weeks in the Purcell Range. Julian Hillhouse made a third; while Conrad Kain was at once outfitter and guide, assisted in the wrangling and packing by his nephew, Isidor.

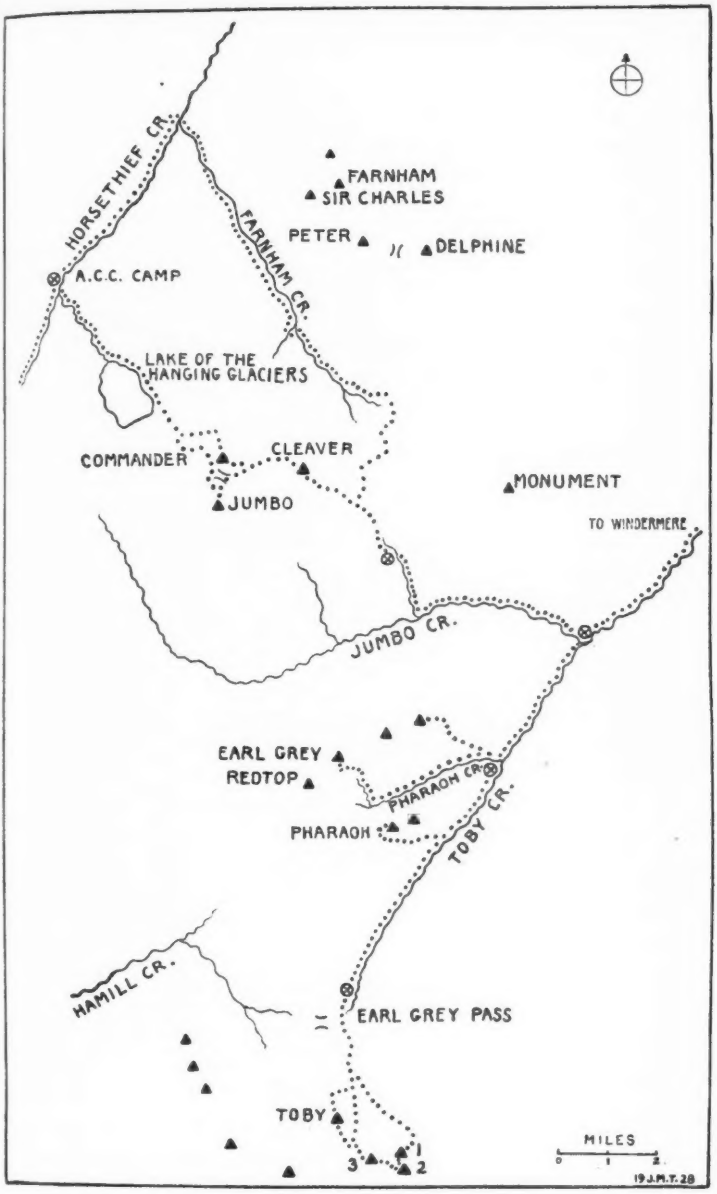
We travelled by the bi-weekly train, known as the "cordwood local," up the broad valley of the Columbia, arriving at Lake Windermere at 6 P. M. Conrad met us, and, after supper at Wilmer, we drove thirty miles by truck to camp in Toby Creek[1] at the mouth of Jumbo Fork. Many of the Purcell valleys have roads leading in some distance from the Columbia; nearly everyone in the country owns or thinks he has found a mine.

Next morning we started up-trail with the horses, fine stands of timber giving way to acres where fire had swept through some ten years before, emerging on a flower-strewn alp where we camped close to the fine waterfall near the foot of Toby glacier.

On July 12 we were up at 5 o'clock, enjoying a breakfast such as only Conrad can cook, before setting off for Mt. Toby (10,537 ft.), the highest peak of the district.[2] It is a pyramidal

[1] Named for Dr. Toby, physician and prospector, 1864, from Colville, Stevens County, U. S.

[2] Formerly known as Mt. Gleason. See *C. A. J.* IV, p. 99. From Toby moraine *via* Toby glacier, N. arête and W. face our ascent required 7 hrs. Descent by way of S. arête and snowfield, 3 hrs. 45 mins.


HORSETHIEF CR.
FARNHAM
SIR CHARLES
PETER
DELPHINE
FARNHAM CR.
A.C.C. CAMP
LAKE OF THE HANGING GLACIERS
COMMANDER
CLEAVER
JUMBO
MONUMENT
TO WINDERMERE
JUMBO CR.
EARL GREY
REDTOP
PHARAOH CR.
PHARAOH
TOBY CR.
HAMILL CR.
EARL GREY PASS
TOBY
1
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mountain, with four distinct ridges, the northern of which we had decided to tackle. At the foot of the glacier we met a large herd of goat beside an alkaline lick in the terminal moraine. They scampered off the ice and were soon grazing on the grassy slopes extending toward Earl Grey Pass.[3]

We ascended snow slopes and easy rocks to the foot of the north ridge, and roped after a second breakfast. Traversing a snow-band for a distance across the western face, we came to a buttress which we were compelled to climb almost to the ridge itself. Again traversing, we were blocked by a steep, smooth rib, which Conrad outflanked by a somewhat sensational descent to narrow, broken ledges. Firm rock then led us upward to the crest about ten minutes from the summit, which we reached without further difficulty. Records of two preceding parties were found in the cairn,[4] both having climbed the mountain from the southeast, a route we followed in descending. Rock and snow of lessening slope brought us to a small icefall through which we cut. At a small eminence on the southern rim of the field we stopped to admire the panorama of wild and unknown country to the south. We looked down into cirques where there are waterfalls and frozen lakes, and beyond into deep, forested valleys with clusters of peaks rising from the snow. Then, unroped, we strolled down the length of the glacier to camp.

Friday, the 13th, did not prevent us from bagging the three unclimbed peaks on the southern margin of Toby snowfield. We refer to them by number only. They form a small triangle: Peak 1 and Peak 2 in north-south line, with Peak 3 a little to the west and nearest to Mt. Toby. Each approaches an elevation of 10,000 ft. Cromwell was the first to set foot on the summit of Peak 1, which we reached by an obvious depression on the east, and up limestone slabs, along the margin of the great precipice falling to the southeast. Then, choosing our own routes, as we had not yet roped, we descended the west face to the glacier.

Conrad crossed to the southwest ridge of Peak 2. Instead of following, we climbed to the col between Peaks 1 and 2, Hillhouse leading. Then we descended by Conrad's ridge to the glacier and toward Peak 3.

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[3] For many years known as Wells Pass, after a prospector of that name who used this route between East and West Kootenay during the early '90s.

[4] The second ascent was made by the Geological Survey.

Hitherto the climbing had been extremely easy. We found the northeast ridge of our third peak broken and steep, and determined, rather than force a way directly upward, to traverse across the east face. Conrad led us cleverly across narrow ledges to flank a series of steep ribs, and finally took us behind a large shield of snow, which had melted away from the rocks so that we could squeeze through behind it. With our backs against the cliff and our feet in snow we emerged near our goal after a bit of fancy climbing, unroped and walked to the summit. It was late, and after fifteen minutes we descended the west ridge to the glacier and followed the old tracks back to camp.[5]

Messrs. McCoubrey and Neave, heavily packed, arrived from Earl Grey Pass, where they had spent the preceding day in measuring the recession of Toby glacier.[6] They joined us for supper and camped nearby.

Our new camp, next day, was situated at the mouth of Pharaoh Creek, with a view to ascending Mt. Earl Grey (10,215 ft). On July 15 we climbed a peak to the east, hoping to traverse to our objective, but from the summit we saw that Earl Grey lay more than a mile to the west, with a serrated line of ridge intervening. We had not used rope in the ascent and did not require it in returning; but the rock was steep and firm, with cuboid blocks of granite for interesting scrambles. A cirque of snow allowed us to glissade to the larch trees, crossing patches of marshy meadow where the avalanche lilies and anemones, half-open, nodded in the sunlight.

On the following day we made the first ascent of Mt. Earl Grey, one of the few unclimbed peaks of the area, highest of the range extending from the divide into the angle between Toby and Jumbo creeks. Fallen timber, windbreaks, and alder impeded us from the start. It is well known that parsons, horse-wranglers, and mountaineers all possess a similar vocabulary, but use their words in different sequence—our united powers (we were neither clergymen nor packers) failed to describe our impressions of the route in the lower valley. One is compensated at length by open

[5] From camp at Toby moraine, Peak 1 was reached in 5 hrs. 15 mins. Descent and ascent of Peak, 2, 1 hr. Peak 3 reached from Peak 2 in 2 hrs. 15 mins., being traversed from east to west. Descent to camp, 2 hrs. 45 mins.

[6] Mr. A. A. McCoubrey, of Winnipeg, kindly permits us to state that the recession of Toby glacier from July, 1915, to July, 1928, is approximately 1100 feet, with a decrease in thickness at the tongue of 100 feet.

glades and a rocky cirque that sparkled with thread-like waterfalls. We chose a watercourse to the north and scrambled up slippery ledges and over old avalanche snow above the polished chute through which the torrent foamed and boiled. On a small plateau above the falls we crossed to the western side, whence easy rock, steeper snow, and finally a hanging glacier led us to a snow-saddle in the bold southern arête. This we followed closely, with an occasional short traverse on its western side, to the southern, highest point of the mountain, the final ridge towers affording airy climbing.

A thunderstorm came sweeping down from the Selkirks, its dark fringes edged with sunlight. We stopped only long enough to take in the circle of peaks spread around us—Toby and the gleaming peaks of the Hamill cirque rising across the Pharaoh shoulder and the meadows of Earl Grey Pass; the rearing lines of Redtop; the Blockheads, at the angle of Jumbo Creek, with Cauldron and Truce in the sunlight and shadow of the approaching storm; Jumbo and Farnham across the brilliant green of the deep valley; Assiniboine, in the line of Toby Creek, a landmark in the Rockies; the Royal and Military groups, the Continental Divide in silhouette against the eastern sky. We reached the first snow-slopes as the rain began and were soaked before reaching the valley. Like climbers who, of a sudden, had developed a sea-going complex, we gave one look at the alders and then stepped into the stream. Anything was preferable to three more hours in the bush; so we waded back to camp, consoled by thoughts of a warm fire and a dinner of the fine trout that Isidor was sure to have landed.[1]

The sun shone brilliantly next day. Cromwell, in an undue burst of energy, induced Conrad to climb the higher Pharaoh Peak (*ca.* 8,000 ft.), and departed at the unorthodox hour of 2 P. M. They rounded the southern side and pulled through timber to the western saddle at 5.30, delaying to watch several fine deer close at hand. Easy rocks on the west face were followed by two vertical pitches, each of about 30 ft., the first of which gave Conrad the opportunity for a finished performance. Earl Grey and the route of the preceding day featured a splendid view, and a rapid return was made after roping off the lower pitch.[2]

On July 18 we moved up Jumbo Creek and camped in a narrow lateral valley entering from the north. A fine trail through

[1] Camp to summit, 8 hrs. 45 mins. Descent, 5 hrs. 10 mins.

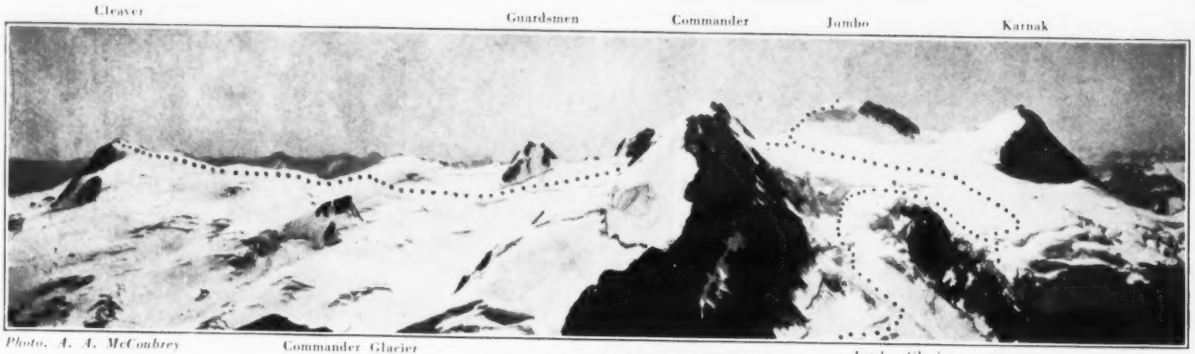
[2] Ascent from camp, 4 hrs.

Photo. J. M. Thorington

MT. EARL GREY

Photo. J. M. Thorington

MT. TOBY



Photo, A. A. McCoubrey

Commander Glacier

Jumbo Glacier

JUMBO RANGE FROM MT. MAVE

a forest of cottonwood and fir, with a carpet of ferns beneath, led us to levels whence we had unrestricted view of the shining granite wall and hanging glaciers that characterize the northern side of Mt. Earl Grey and its adjacent peaks. The group affords opportunity for many interesting traverses.

We left camp on July 20 at 6 and reached a little pass at the head of the valley just before 8.30. Cromwell's hat wheeled down a slope and was regained after a long glissade. Before us a rounded ridge led toward The Cleaver (*ca.* 10,400 ft.),[9] which we reached by its steep southern face, which is less formidable than it appears. We climbed in pairs: Conrad and Thorington; Cromwell and Hillhouse. The summit cornice was reached at 11.15, and we moved off at once to the snowfield beyond. We passed by the little peaks of The Guardsmen, crossed a bergschrund where a long step was required, and rounded crevasses to the Jumbo-Commander saddle where we were once more on a level with Cleaver.

Clouds descended upon us and snow began to fall, intermittently blotting out even the nearest peaks. We stretched the rope tightly and marched on toward Jumbo (11,217 ft.); Conrad, from two previous ascents,[10] was well acquainted with the mountain and had determined to include it in the high-level route he had selected for us. Wind increased, tearing at the fog and revealing a line of huge cornices looming against the sky. Often the mists would roll back from the west, giving us glimpses of peaks and meadows glittering in shafts of sunlight. Then a snow-squall would sweep across, hiding everything. The slope steepened and became icy; Conrad, hacking a zigzag staircase, would be almost out of sight at the end of the rope. Close behind the line of cornices we came to a snowy shoulder, where for a moment we were sheltered from

[9] The mountain spoken of as Conforjohn, *C. A. J.* XIII, p. 239. We ascended in 4 hrs. from camp. It appears to be exactly the same height as the Jumbo-Commander saddle. Jumbo was reached in 5 hrs. from Cleaver, with numerous halts due to storm. Our party was the first to make this traverse and the first to make a descent direct to the Lake of the Hanging Glaciers. We required 16 hrs. between our camp and the Alpine Club camp in Horsethief Creek.

[10] Conrad led on the first ascent in 1915; *C. A. J.* VI, p. 107; VII, p. 25. He deserves great credit for the second ascent which he made alone on snowshoes on March 5, 1919, taking 4 hrs. 30 mins. from the foot of Commander glacier (Farnham Valley) to the summit; see *Bull. Geogr. Soc. of Phila.* XXVI, p. 69.

the wind by the mountain's final dome. A few minutes later we reached the summit, crouching in the blast of freezing wind. Holes in the fog allowed us fleeting glimpses of the nearest cirques and valleys; we turned in our tracks and beat a retreat.

It was a relief to reach the snowfield; to find ourselves below and free of the dull monotone of driving cloud. Our problem still lay ahead. Séracs and crevasses formed a barrier in our path; we circled toward the northwest, skirting icy caverns. The rope was out at full length as we descended a slope of high angle, only to find it ending in space. Far below us, at the end of the ice, we saw a circle of larch trees and water of unbelievable blue, with tiny bergs drifted to the farther end—our first view of the Lake of the Hanging Glaciers.

How to reach it was a question. Conrad unroped and went down a little farther, discovering in the angle between the icefall and Mt. Commander a narrow and very steep slope offering a possible route to the cliff below. We retraced our steps nearly to the pass, and reached the head of the slope; Conrad leading down, facing toward the slope as one descends a ladder. Cromwell brought up the rear, the snow fortunately in excellent condition—a north slope on a cloudy day. During the half-hour that followed we made three crossings of a well-defined avalanche channel, it being necessary on one occasion to slide down gently from an overhanging lip to a slender slice of ice forming a bridge to the firm glacier beyond. Over old avalanche blocks we crossed to dry ice and reached the slabby cliffs; the lower fall is best avoided as it is frequently stone-swept.

In a little while we were off the glacier and walking along the boulder-strewn shore of the lake, stopping in the first grove of trees to look at the ice ending in the water. It terminates in a front nearly 50 ft. high, extending from shore to shore in a concave curve, with gigantic rents parallel to its face as huge shells of ice scale off to form the floating icebergs. It grew dark as we reached flowering meadows at the outlet of the lake: a heather-carpet where we sat down for a short rest and finished our provisions. Soon we were down the zigzag trail through the forest and enjoying the blazing campfire of the Alpine Club of Canada.

On July 22 we left camp as a split party. Cromwell and Conrad went off at 6.30, walked up and past the Lake of the Hanging Glaciers to return to our tents in Jumbo Creek by way of

Commander (10,900 ft.) and Cleaver.[11] They reached the rift in the slab-wall which we had descended two days previously, and turned east from the ice-plateau to a couloir, filled with boulders and dust, leading them nearly to the crest of the undulating ridge in the direction of Mt. Commander. Using ledges on the western side of the ridge, the main arête was reached and followed. Soft snow made it necessary to remain on rock continuously, the crest being ornamented by occasional luxurious pools of clear water. At 2.30 the narrow summit was reached, now devoid of the snow-cone that Conrad recalled from the first ascent. Without halting, they continued to the Jumbo-Commander saddle, and, at 3 P. M., stopped on the last boulder for lunch. Cromwell led toward Cleaver, arriving for the second time in three days at a quarter before five, in time to see the two other members of the party ascending the glacier-slopes at the head of Farnham Valley.

Hillhouse and Thorington, hoping for an easier day, wandered downtrail through the forests of Horsethief Creek, and up Farnham Valley. There are waterfalls and a fine canyon to be seen; the Farnham Tower, through a gap, lifts into the sky, and one comes at last to the torrent below Commander Glacier.

Wading the lateral branch and crossing the main stream on a log, one goes up trail to cabins near the abandoned Phoenix mine. One may saunter ever upward through open glades where gnarled and stunted larch form a contrasting foreground for the dark precipices of Cleaver just across the ice. Behind, a silver thread of stream winds toward the distance of Horsethief. The glacier descending from the crest separating Farnham from Jumbo Valley has few crevasses, but the passage of these is not facilitated when the only rope is being used by another party, several miles away. A short, delicate traverse on a slant of snow between two schrunds, leads one to a depression (*ca.* 9,500 ft.) in the ridge south of Cleaver, whence the tents may be seen. A couloir of hard snow leads downward, and our party was reunited in camp.

On July 24 the truck came out and carried us back to Wilmer. On the curve of the road to Windermere, with the dusky red foothills of the Rockies ahead, we will long remember the spreading panorama of the grey-blue lake, and the valley of the Columbia

[11] Total time from camp to camp, 14 hrs. The route selected by the other members of the party through Horsethief and Farnham valleys proved almost equally long.

winding through the distances. We do not think that we have seen the Purcell Range for the last time.

Our pilgrimage ended a few days later in Montreal, under the trees of the old cemetery of Mount Royal. A simple granite column is surmounted by an old-fashioned sextant. The inscription at its base reads:

DAVID THOMPSON, 1770-1857

To the memory of the greatest of Canadian geographers who for 34 years explored and mapped the main travel routes between the St. Lawrence and the Pacific.

Activities of Members

Members are urged to send in a record of their climbs, together with any new information relative to the regions visited.

Cary W. Bok climbed in the Alps last summer, ascending the Mönch; also Piz Bernina and others in the Engadine district.

Helen I. Buck climbed Mts. Victoria, Lefroy, Mitre, Pinnacle, Hungabee, Edith and Louis in the Canadian Rockies; and Mts. Dome and Thompson in the Purcell Range.

Allen Carpe made a second ascent of Albreda Mtn., in the northern Gold Range, by a new route from the west. Access was from the Canadian National line one mile south of Clemina station.

Mrs. Julia R. Colt and Miss Julia Colt climbed together in the Alps. Mrs. Colt climbed the Dent du Géant, Grand Paradis, Grivola, and Monte Viso; Miss Colt, in addition, the Dent Blanche and the Zinal-Rothorn.

B. S. Comstock made a number of excursions at Arolla and Chamonix, including the Petite Dent de Veisivi, the Moine, and the Aiguille de l'M.

O. E. Cromwell, Dr. J. Monroe Thorington and Julian G. Hillhouse climbed in the Purcell Range, making first ascents of Mt. Earl Grey, Pharaoh Peak (east summit), and three unnamed peaks, a first traverse of Mt. Toby, and ascents of Jumbo, Commander and Cleaver.

A. R. Ellingwood was again active in the Sierra, climbing Black Kaweah, Russell, Whitney, Tyndall, and Junction Peak by the east ridge.

Francis P. Farquhar climbed Mt. Muir, in the Sierra; he has also completed a book on Mt. Olympus.

Bradley B. Gilman made the following ascents in the Alps: Grand Muveran (from Les Plans sur Bex, guideless), Diablerets (traverse from Pierre d'Or to Anzeindaz, guideless), Grands Charmoz (guideless), Grépon (traverse), Weisshorn (guideless), Riffelhorn (variant of Matterhorn Couloir, guideless), Pointe de Zinal (Schönbühlhütte to Col Durand, guideless), Trifthorn and Pointe de Mountet (Triftjoch to Cabane de Mountet, guideless), Besso

(S.W. arête and traverse, guideless), Dent Blanche (Arête des Quatre Anes to Schönbühlhütte, guideless). Mr. Gilman is a member of the Harvard and the Yale Mountaineering Clubs, and was accompanied by Hassler Whitney, of the latter.

Dr. A. J. Gilmour climbed Mt. Edith, Mt. Victoria, Mt. Lefroy, Mt. Coleman, Wilcox Peak, and a peak near Nigel Pass, in the Canadian Rockies, and Mts. Dome and Thompson, in the Purcell Range.

Rodney L. Glisan visited Jasper and Mt. Robson National Parks with the Sierra Club parties and climbed Mts. Drawbridge, Clitheroe, Mumm, Titkana and Resplendent.

John L. J. Hart climbed Lliwedd by Craig-y-Aderyn (Wales).

Marjorie Hurd is one of an enterprising group affiliated with the Appalachian Mountain Club who have developed a number of excellent rock climbs in New England. Miss Hurd made three new climbs to Pamola and the Knife-Edge (Katahdin); also the east cliff of Mt. Hedgehog (Albany Intervale).

Joseph E. Johnson, with D. L. Busk, A.C. and Y.M.C., made ascents of Redoubt Peak and Mt. Casemate, Rampart Group, Canadian Rockies.

Elizabeth Knowlton made the climb of the Torre Grande, Cinque Torri group, near Cortina, by the south wall, the Meije (by arête de la Brêche) and Pic Gaspard (via Le Pavé). Miss Knowlton also climbed in Skye, including a new variant on Mallory's Buttress on the Sron na Ciche.

Dr. W. S. Ladd reports the following list of climbs at Chamonix, Zermatt and Randa: Aiguille de l'M (north face), Le Brévent (southeast face), Clocher de Planpraz (traverse), L'Index, Petits Charmoz (traverse), Mt. Blanc, Mt. Maudit, Mt. Blanc du Tacul, Aiguilles Dorées (traverse), Le Peigne (traverse), La Nonne (traverse), Aiguille Verte (arête du Moine), Dent du Requin, Zinal-Rothorn (by Triftjoch), Lenzspitze-Nadelhorn-Stecknadelhorn (traverse).

Joseph N. LeConte climbed Mt. Thompson (second ascent) and North Palisade, in the Sierra.

Robert L. Lipman climbed Mt. Brewer, Sierra.

Charles B. Newhall conducted a pack train trip, in which Avis E. Newhall and Nathaniel L. Goodrich participated, through the Bighorn Mountains of Wyoming. The party made a guideless

ascent of Cloud Peak (13,165 ft.) and a reconnaissance and partial ascent of Blacktooth (13,104 ft.), which they believe to be as yet unclimbed, reaching an elevation of 12,000 ft. on the north side.

Lincoln O'Brien assisted in opening up two new and excellent rock routes on Katahdin, also many rock climbs elsewhere in New England, including Willard, Cannon, Dog and Storm King Mts.

Miriam O'Brien climbed the Campanile Dimai (Pomagagnon Group), Tschierspitze (by Adang-Kamin), and the Campanile di Val Montanaia, in the Dolomites; also the Taeschhorn (Teufelsgrat, traverse), Rimpfischhorn (guideless), Petits Charmoz (traverse, guideless), Aiguille de l'M and Pic Albert (traverse, guideless), Pic Gaspard (ridge from Le Pavé), Meije (traverse), Grépon (traverse), Aiguilles du Diable (first complete traverse).

Dr. John H. Strong climbed Piz Morteratsch, Piz Bernina, Weisshorn, Monte Rosa and Wetterhorn (Alps).

Dr. Max M. Strumia made first ascents of Mts. Ermatinger, Scott and Evans (Whirlpool Group), and of Mts. Charlton, Sampson, Warren, "Florence," and The Thumb (Maligne Lake Group), in the Canadian Rockies. Survey stations Needle E. and Needle S., near Needle Peak, were also visited. All of these ascents were made without guides. Dr. Strumia climbed with W. R. Hainsworth at Maligne Lake, and with Dr. Thorington, Julian G. Hillhouse and W. R. Hainsworth in the Whirlpool.

A. C. Tate explored the Mission Range in the Montana Rockies, visiting Greywolf Lake and Glacier, High Park Lake, Goat Pass, Mountaineer Peak, Lost and Crystal Lakes.

Roger W. Toll has been appointed Superintendent of Yellowstone National Park.

Herman F. Ulrichs climbed in the now little visited Selkirks, making traverses (solo) of Leda, Castor and Pollux, and of Rogers Peak. He also made the following ascents in the Canadian Rockies, Purcell Range and Cascades: Mt. Assiniboine (guidless), traverse of Wonder Peak and Mt. Cautley (guideless), Mt. Bruce (first ascent by southeast ridge, guideless), Mt. Farnham (first ascent from west), Mt. Rainier (guideless).

Daniel Underhill made the following climbs in the Alps: Kleines Wellhorn, Kingspitz (Engelhörner), Grosse Windgälle, Tödi (traverse from Hüfi Glacier over west ridge, descent via Gliemspforte and Puntaiglas Glacier), Piz Bernina (traverse via

Pizzo Bianco and Scharte, descent by Labyrinth of Morteratsch Glacier), Piz Roseg (traverse via Eselgrat).

Newman D. Waffl climbed the following in the Alps: Jungfrau (from Guggi), Mönch (traverse), Gross-, Hinter- and Klein-Fiescherhörner, Finsteraarhorn (descent to Strahlegg Hut), Eiger (Mittelegi Ridge, traverse), Dent Blanche (Viereselgrat, traverse), Trifthorn, Pointe du Mountet, Zinal-Rothorn (traverse), Taeschhorn, Dom (traverse), Matterhorn (traverse and retraverse via Carrel's Galerie), Dent du Requin, Grépon, Aiguille de Bionassay (north face), Mt. Blanc, Mt. Maudit, Mt. Blanc du Tacul (traverse), Clocher and Clochetons de Planpraz, Aiguille du Plan.

Frank N. Waterman ascended Mts. Fay, Victoria, Coleman and Wilcox, in the Canadian Rockies, and Mts. Dome and "Dorothy," in the Purcell Range.

A number of our members visited the Camp of the Alpine Club of Canada in the valley of Horsethief Creek, below the Lake of the Hanging Glaciers, in the Purcell Range. A subsidiary camp was placed near the head of the South Fork of Horsethief Creek. The principal climbs from the main camp were Mts. Dome, Thompson, "Dorothy" and Bruce; from the subsidiary camp Mts. Farnham, Charles and St. Peter were ascended, all over 11,000 ft. One party, headed by A. A. McCoubrey, came into camp from the west, crossing the range by Earl Grey Pass.

IN MEMORIAM

ARNOLD LOUIS MUMM

1859 — 1927

(Read at the Annual Meeting, January 19, 1929)

ARNOLD LOUIS MUMM, an Honorary Member of this Club, whose father had what was once the creditable, but what has now become a doubtful, distinction of supplying an excellent brand of champagne, died a little over a year ago at the age of 68. For one who had spent so much of his life and energy on the heights, it seemed an incongruous ending to succumb at sea, and be plunged into the depths in the Bay of Biscay on the return voyage to his native land.

Both at school, Eton, and at the University of Oxford, Mumm was distinguished in the line of scholarship and sport. When he left Eton he was captain of the school. Academic successes at Oxford did not interfere with his playing on the university football team. After leaving Oxford, Mumm came to London and studied for the Bar, was admitted at the Inner Temple in 1883, and called to the Bar in 1886. He could have made a good practice for himself, but legal work was not congenial to him; and, owing to an independent fortune, which was quite sufficient for his bachelor needs, a practical incentive was lacking. In 1894 he joined the publishing firm of his relative Edward Arnold, and interested himself in it, both as a reader and a manager for over thirty years.

While cultivating the habits and tastes of a scholar, Mumm continued to show a keen interest in sport and out-of-door pursuits. He is said to have been an excellent shot and a good rider to hounds; and we know that he became a daring mountaineer and a persistent and adventurous traveler. It is in the latter activities that we are interested, and for which we commemorate him here.

At the early age of fourteen, Mumm began his alpine career with the ascent of the Titlis (10,627 ft.), near Engelberg. He celebrated this experience by repeating it fifty years later in 1923. In the meantime he had made scores of big ascents in Switzerland,

and in the Dauphiné, had explored and climbed in Africa, in the Himalayas, in the Canadian Rockies, and in Japan, and had visited the glaciers of New Zealand. He was thus a world-wide and legitimately renowned mountaineer; but his inclination was to avoid publicity.

In 1905 he went with D. W. Freshfield to the Ruwenzori, and although this adventure was not successful in its main object, yet it aroused in Mumm the desire to explore as well as to climb. Two years later, he joined General Bruce and Dr. T. G. Longstaff in an expedition to the Himalaya, in the course of which Longstaff, with the two Brocherels, made the first ascent of Trisul (23,400 ft.). Mumm's chief contribution to mountaineering literature, "Five Months in the Himalaya," gives a full account of this trip, and incidentally throws a pleasing light on the relations between himself and Moritz Inderbinen, who became to Mumm as indispensable a fellow-traveler as he was a guide.

After his return from Asia, Mumm was attracted to this continent, where he appeared at the Alpine Club of Canada camps on half a dozen occasions, when he doubtless met many members of this Club, the last time being at Palliser Pass in 1922. He climbed and explored vigorously in the Canadian Rockies, less so in the Selkirks, accompanied by the Right Honorable L. S. Amery, Dr. Norman Collie, Dr. Hastings, and G. E. Howard, and, of course, by the faithful Inderbinen. His attempts on Mt. Robson have become historical. Papers of his, like "Some Characteristics of Mountain Ranges" and "A Mixed Bag," reflect the combination of a good raconteur with a capable alpinist and experienced traveler. The speaker's first acquaintance with Mumm began at the Canadian Alpine camp of 1909 at Lake O'Hara. Eleven years later a delightful day was spent with him and Mr. Freshfield at Banff, when Mumm was on his way to the camp at Mt. Assiniboine, which was, I think, the last of his higher climbs in the Rockies. The last of his big climbs seem to have been the Dent du Midi and Dent Blanche in 1921. On the latter he was dreadfully tired, as a Zermatt guide who accompanied him, and whom I employed the following year, informed me. Inderbinen was no longer able to accompany him. He died two years before his "Herr," who had settled him and his English wife comfortably at Zermatt, and who paid him an appreciative tribute in the *Alpine Journal*, November, 1927. While traveling in the Tyrol in 1926, Mumm's physical

powers, which had probably been over-taxed for some years, failed him suddenly; and he never regained his health.

Mumm was a person of critical intellect. His friends were inclined to say that he was too prone to be a detached spectator of men and events and to cultivate a philosophic calm. What a refreshing contrast he must have presented to some of the aggressive and futile activity by which he was doubtless surrounded. He was probably very wise in his attitude; it was in accord with his temperament; he was thereby happier and able to radiate this happiness to others. He was devoted to his old Club, in whose interests he spent his time and money freely; but, indeed, he was interested in all alpine clubs and undertakings and helped to inaugurate the Japanese Club.

"It was entirely due to his characteristic diffidence," says Mr. Freshfield, from whose fine notice of Mumm in the *Alpine Journal*, May, 1928, I quote, "that he did not succeed to the Presidency. As Secretary his benign and cheerful presence lent a grace even to the most formal proceedings." And this is part of the tribute which Dr. Longstaff paid to Mumm's share in the Himalaya campaign: "What struck me most during the whole trip was Mumm's characteristic patience and unfailing good temper even under discomfort, which was often aggravated in his case by indifferent health. It was wonderful how he endured those awful two nights and three days when we were weatherbound at our high camp, 20,000 ft., on the occasion of our first abortive attempt on Trisul."

Outstanding features of Mumm's character were thus modesty, self-control and endurance; qualities which we like to think struggles with Nature in the wilderness and on the great peaks develop and establish as inestimable personal possessions.

J. W. A. Hickson.

JOHN PERCY FARRAR

1857-1929

Captain John Percy Farrar, D.S.O., died in London on February 18, in his seventy-second year, a well-loved member of the Alpine Club, of which he had been a member for 46 years.

He was born December 25, 1857, the son of Charles Farrar, M.D., of Chatteris, Cambridgeshire, and Helen, daughter of John Howard, of Bedford. Educated at Lausanne, he became a South

African merchant, and was a member of the firm of Howard and Farrar, later Farrar Brothers. In 1886 he married Mary, daughter of F. Beswick, of Queenstown. From 1895 until 1900 he lived on or near the Lake of Geneva. During the war in South Africa, he served in the Kaffrarian Rifles, and was mentioned in dispatches, receiving the D.S.O. in 1900.

His alpine career began in 1881, in the Eastern Alps, and continued with few intermissions to the last climbs in the St. Gotthard region in the summer of 1928. His ascents have been admirably summarized by Mumm and Spencer, in the Alpine Club Register, and it were easier to recite Ball's *Alpine Guide* than to record all of them here. They number more than three hundred and twenty-five expeditions.

Among his great ascents were the Weisshorn (three times), Schreckhorn (four times), Wetterhorn (seven times), Meije (four times), Matterhorn (four times: first descent by Zmutt arête, 1890; Breuil to Zermatt, 12 h. 5 m., 1892; from Italian Hut over "Galerie Carrel" to summit, descent [the 1st] by same route to Col Félicité, and to summit again by ordinary route, descent to Zermatt, 1903), Mont Blanc (five times; Brenva route [5th ascent], 1893).

His magnificent season was 1893, as follows: Balmhorn, Altels, Tour de St. Martin, Oldenhorn, Blümlisalphorn, Aig Rouge d' Argentière, Tour Noir, Aiguille d'Argentière, Roche du Grand Galibier, Brèche de la Meije, Meije, Barre des Écrins, S. Aig. d'Arves, Meije, Col de la Temple.

Mont Blanc by the Brenva glacier, Aig. du Dru, Petit Dru, Grépon, Charmoz, Dent du Géant, Col du Géant, Aig. Noire de Peteret, Mont Blanc de Courmayeur, Mont Blanc, Col du Midi, Col du Géant, Dents du Midi, Bietschhorn.

During long seasons he had climbed with many members of the Alpine Club, including H. Topham, W. E. Davidson, E. Whymper, H. E. Marsh, T. L. Kesteven, H. V. Reade, G. E. Gask, V. A. Fynn, W. A. Wills, R. W. Lloyd, and J. E. C. Eaton.

Besides climbing in the Alps, Farrar made ascents in South Africa, Japan, and Canada. As long ago as 1899 he ascended the final peak of Mt. Stephen alone, and in 1911 revisited the Rockies with his son, making a pack-train journey over Yellowhead Pass and Moose Pass to Mt. Robson, where minor summits were reached.

His name is recorded by the Pointe Farrar (Aig. Verte), which he attained in 1898.

As recently as 1924 he climbed the Jungfrau by the Guggi route, and in 1925, in his sixty-eighth year, did Cima Tosa, Presanella, Adamello, Passo di Marocaro, Ago di Sciora, Passo di Bondo, Piz Badile, Passi di Porcellizzo and di Trubinasca, Col de Géant, Col des Grandes Jorasses (attempt to within 100 m. of crest), and Grépon. The Bregaglia climbs in this astonishing record were made in company with Christian Klucker, an old friend, whose recent death affected him greatly.

In the summer of 1928, in his seventy-first year, he was able to climb Pizzo Rotondo, Basodino, Campo Tencia, Rheinwaldhorn and Bifertenstock.

Captain Farrar was President of the Alpine Club during the period 1917-19, Assistant Editor of the *Alpine Journal* 1909-19, and Joint Editor (with Yeld) 1920-26. He had a profound knowledge of alpine history and his monographs on the Finsteraarhorn and Monte Rosa are classic. In the graceful fashion that was so characteristic of the man he wrote the obituary notices of many of his old companions who had passed on.

In 1928 he was unanimously elected an Honorary Member of the American Alpine Club, and, at an age when such things are seldom highly regarded, was keenly appreciative of our recognition. We, of course, knew how infinitely more to our own honor it was.

His circle of friends throughout the world was enormous; his personality impressed many who never came in actual contact with him. He was always ready to encourage others, although he seldom spoke of his own great feats. The loss of his only son in the World War was compensated for in part by his adopting all young men as his children; and they idolized him in return.

One of his last letters, written only in January of this year, is full of historical anecdotes and happy recollections of the mountains. He concluded, in his firm angular writing which showed not a trace of age: "My time is getting near, as all my companions are moving off. Never mind—I shall have had a good innings."

Thus passes "the fleetest foot in all the Alps." More than any man of his generation he added the consummate art of friendship to the sport of mountaineering. His memory is secure in our hearts, and his legend will increase.

J. M. T.

JOHN HENRY CUNTZ

1866 — 1928

JOHN HENRY CUNTZ, a member of the Club since 1914, went over the range in May, 1928, in his sixty-second year. He was born in Hoboken, New Jersey, and was a graduate of Rensselaer Polytechnic Institute and of Stevens Institute of Technology.

At an early age he became interested in the electrical industry, and was for a year in the laboratories of Thomas A. Edison, and later joined the Coast and Geodetic Survey in New York Harbor. He was an officer in the Navy in the Spanish-American War. He spent twelve years or more in researches in wireless, in inventions of electric cables for high-speed transmission and in endeavoring to interest the large electric cable companies in his inventions. It was slow work, but finally he met with success.

In the World War he served in the Signal Corps and trained hundreds of men. He was interested in the Boy Scout movement, and in his church at Hoboken, where he served as an officer for many years.

He went with the Parker-Browne Mt. McKinley Expedition of 1910 as its scientific member. He made numerous ascents of the mountains in the western United States and Canada. He was a member of the Alpine Club of Canada and had been for two years the chairman of its New York Section. He was a devoted member of the American Alpine Club and served faithfully on its committees. He gave a strong impetus to the founding of the Yale Mountaineering Club.

In his death the Club loses a loyal member and a man of charming and lovable nature.

B. F. S.

[Word has just been received of the death of Val A. Fynn, an active member of the Club, which occurred at St. Louis, on March 21, 1929, after a brief illness.]

THE CLUB ROOM

PROCEEDINGS OF THE CLUB

SECRETARY'S ANNUAL REPORT, 1928

The past year has been a remarkable one in the history of the Club.

Dr. Nichol's presidency brought about an awakening of wider interest in the Club and the infusion of much new blood. Under President Palmer, an aggressive program of betterment and expansion has been in progress.

Our own Club Room, opened today for the first time, marks the beginning of a new era in the Club's life. It fills a long-felt want. These quarters where members can use our books in comfort and meet each other in a home-like atmosphere, while in addition they can enjoy many of the privileges of the Explorers' Club, should be a source of satisfaction and pride.

Another major ambition presently to be realized, is the establishment of our own American Alpine Club Journal. It will contain climbing articles by members, together with the official notices, minutes of meetings, etc. There will therefore be no further separate issues of the Secretary's Annual Circular Letter. Arrangements with "Appalachia" have been discontinued. Whether further issues of "Alpina Americana" will be published occasionally in the future remains to be decided.

The present membership of the Club is 192, of which 11 are Honorary. During the year Messrs. Mumm and Cuntz died, one member resigned and one was dropped. Against this Capt. J. P. Farrar was elected to Honorary Membership and 23 Active Members were added.

The usual amount of climbing was done in Canada and the United States, and several splendid ascents were made in the Alps. I venture to say that the enthusiasm of our membership for the sport and the average skill of our climbers in the field have never been higher.

More pleasure and benefit than ever before may be derived from membership. The Club today stands on the threshold of a new and greater life of usefulness, influence and prestige.

HENRY B. DEV. SCHWAB, *Secretary.*

ANNUAL MEETING

January 19, 1929

The Twenty-sixth Annual Meeting of the Club was held in the Lecture Hall of the Explorer's Club, at 544 Cathedral Parkway in New York City, President Palmer in the chair. Forty-two members were present.

The Treasurer's Report was read by Fisher and upon motion was approved and ordered filed. It showed $789.03 receipts against $319.94 expenses for the year, and balance of $1,061.58 in general fund and $10,985.23 in Club House Fund.

Nichols moved the Secretary be instructed to write Treasurer Seaver a letter expressing the affection and sympathy of the Club, and its regret that illness prevented his being present. This was seconded and passed unanimously.

The Secretary's Annual Report was read and accepted.

President Palmer appointed D. Underhill to examine and count the Proxies sent in for voting on the proposed changes in the By-Laws. While this was being done, the Secretary read the "Proposal to Amend the By-Laws."

The votes—present and by proxy—were as follows:

Amendment to Section 3	For 80	Against 0
Amendment to Section 6	For 75	Against 3
Amendment to Section 8	For 80	Against 0
Amendment to Section 9	For 78	Against 2

Accordingly the By-Laws were declared amended.

J. W. A. Hickson then read a Memorial to our late Honorary Member Arnold L. Mumm, which was adopted by a rising vote after a few words by Nichols.

President Palmer then called on W. Osgood Field as past-president of the Harvard Mountaineering Club. He spoke briefly about its activities and stated that the membership was now over 100, of which about 40 were undergraduates.

Stephen H. Hart being called upon as the President of the Yale Mountaineering Club, reported that it was started in 1928 on the same plan as the H. M. C. and was in a healthy condition, with about 30 members.

B. S. Comstock reported that endeavors were being made to found a similar club at Princeton.

Carpe, as Chairman of the Committee on Publication, reported briefly on the plans for the Journal of the Club and regarding the field which it proposed to cover.

President Palmer introduced for consideration the question of continuing to publish the triennial booklet and the climbing records of members in full therein. There was a thorough discussion, in which Ladd, Thorington, Nichols, Fisher, Hall, Schwab, Comstock, Hickson, Waterman, Carpe, Cromwell, Greene and Field took the floor. It was strongly urged by Hall and others that the publication of the records in the present form is of great use and value to the members. Against this was pointed out the relatively large expense of such publication, which duplicates information already printed in the nominations, the fact that current activities will be reported henceforth in the Journal of the Club, and that a number of our members do not approve in principle of the formal publication of the records. Thorington moved that the publication of records in the booklet be discontinued, the information to be collected by the Secretary as before and kept on file for the information of members on application to the Secretary. After further discussion, this motion was amended by substitution of "suspended" in place of "discontinued," seconded by Nichols, and carried by vote of 23 to 9, several not voting.

President Palmer spoke briefly on the Club Room and on the Endowment Fund which was now about $11,000, but should be increased to $15,000 before the Club can be comfortably situated.

The Secretary read a minute passed by the Board of Directors regarding appointment of a Librarian, and on motion, duly passed, the Secretary was instructed to cast one ballot in favor of J. Monroe Thorington for Librarian; this was done. A vote of thanks to Thorington for his gift to the Club Library of books and pictures was proposed by Gilmour, seconded and passed.

Ladd suggested that members send Thorington a list of such books and magazines as they would be willing to donate to the Club Library.

President Palmer read a short report on the Guide Book, which showed 244 copies as having been sold to date.

Nichols then made the following report as Chairman of the Nominating Committee of which the other members were Scattergood and Weed:

For President	
William Sargent Ladd	New York
For Vice-Presidents	
Benjamin F. Seaver	New York
Francis Peloubet Farquhar	San Francisco
For Secretary	
Daniel Underhill	New York
For Treasurer	
Joel Ellis Fisher	New York
For Councillors	
Three-year term	
Allen Carpe	New York
Henry B. deV. Schwab	New York
Two-year term	
Howard Palmer	New London
Henry Snow Hall, Jr.	Boston
One-year term	
J. Monroe Thorington	Philadelphia
William R. Hainsworth	New Haven

Upon motion by Waterman, seconded by Gilmour, it was unanimously voted that the Secretary cast one ballot for the above ticket. This was done and the nominees were declared elected.

President Palmer read a letter from Seaver expressing deep regret that illness prevented his attendance. This letter contained a Memorial to John H. Cuntz, which on motion of Greene, seconded by Burr, was adopted by a rising vote.

President Palmer then made the following concluding remarks:

"In relinquishing the reins of office to Dr. Ladd, I cannot refrain from saying a few words of appreciation for the fine support which has been given me throughout my term, both by the members who have done yeoman work on committees, as well as by the Councillors and the other officers. We have held on the average four Council meetings a year, all but one in New York City.

"In particular, I wish to speak of the conscientious devotion which Treasurer Seaver has given to his important department. It must have been so conspicuous to every member that I would not

allude to it at all except for the fact that this service antedates the membership of most persons present in this room. Mr. Seaver has been Treasurer more than ten years out of the twenty-seven of the Club's existence. He has held office longer than any other Treasurer, and it seems to me fitting that the fact should be recalled at this time."

The Meeting adjourned at 4.05 P.M. to listen to the following talks, illustrated with motion pictures:

W. R. Hainsworth: "First Ascents from Maligne Lake, 1928."

J. Ellis Fisher: "Some Climbs from the Fay Hut, 1928."

Afterward members repaired to the new Club Room where refreshments were served.

HENRY B. DEV. SCHWAB, *Secretary.*

ANNUAL DINNER

January 19, 1929

The members and their guests sat down to dinner in the Green Room of the Hotel McAlpin at 7.30 P. M. President Palmer presided and with him at the head table were seated Messrs. Burr, Strumia, Fay, Putnam, Hickson, Thorington and Waffl. In all 94 were present.

After dinner the President addressed the diners and introduced Dr. W. S. Ladd, the newly-elected President, who stated that he expected to give especial attention to publications by the Club, including the Club Journal, which was soon to appear.

The President then introduced Professor Fay, the only founder of the Club present, who contrasted the active alpinism of the Club today with the polar explorations of its members in the past.

Mr. McCoubrey of Winnipeg expressed the greetings and good wishes of the Winnipeg Section of the Alpine Club of Canada and of the Dolomite Climbing Club of Manitoba.

Mr. Newman D. Waffl spoke on his climbs of 1928 in the Alps, illustrated by slides. His descriptions of the classic routes on the Jungfrau, Zinal-Rothorn, Dent Blanche and Monte Rosa were followed with great interest.

Dr. J. Monroe Thorington gave an illustrated account of the explorations of his party last summer in the Canadian Rockies and the Purcell Range, including first ascents of Mt. Scott, Mt. Ermatinger, Mt. Evans, Mt. Earl Grey and other unnamed peaks.

Dr. Max M. Strumia presented a carefully prepared paper on "Moods of the Mountains and Climbers," giving illustrative incidents from his many and varied mountaineering adventures, and pictures appropriate to the feelings he described.

Mr. Osgood Field showed a fine collection of moving pictures taken about the glaciers near Mt. McKinley and Glacier Bay, Alaska, and views of mountain sheep, caribou and moose, with unusual scenes of the caribou migration.

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August 28th

to

September 25th

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